5636

SCREENING SITE INSPECTION REPORT

FOR

YPSILANTI TOWNSHIP LANDFILL

YPSILANTI, MICHIGAN

U.S. EPA ID: MID980991087

April 29, 1991

Prepared by:
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SIGNATURE PAGE

FOR

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PREPARED BY: _____ DATE: _____

Cindy Fairbanks, Team Leader
Michigan Department of Natural Resources

REVIEWED AND APPROVED By: George Carpenter DATE: 5/13/91

George Carpenter
CERCLA Pre-Remedial Coordinator
Michigan Department of Natural Resources

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1. INTRODUCTION

The Michigan Department of Natural Resources (MDNR) was contracted by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the Ypsilanti Township Landfill Site.

The site was initially discovered to CERCLIS by the MDNR June 1, 1984. The site was initially evaluated in the form of a preliminary assessment (PA) prepared by Ms. Brenda Irish and Mr. Isnatius Ojong that was submitted to U.S. EPA on November 9, 1987. The PA was accepted and logged onto CERCLIS on December 16, 1987.

MDNR prepared a SSI work plan for the Ypsilanti Township Landfill site. The SSI work plan was approved by U.S. EPA on April 27, 1990. The SSI field trip of the Ypsilanti Township Landfill site was conducted on May 15, 1990.

The SSI included an interview with a site representative, a reconnaissance inspection of the site, and the collection of ten soil samples, three sediment samples and three surface water samples.

The purposes of a SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial Program strategies. The directive states:

> All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary Hazard Ranking System (HRS) score, 2) establish priorities among sites most likely to qualify for the National Priorities List (NPL), and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as no further remedial action planned (NFRAP), or carried forward as a NPL listing candidate. A listing SI will not automatically be done on these sites, however. First, they will

go through a management evaluation to determine whether they can be addressed by another authority such as the Resource Conservation and Recovery Act (RCRA).... Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.

The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI. (U.S.EPA 1988).

2. SITE BACKGROUND

2.1 Introduction

This section includes information obtained from SSI work plan preparation and the site representative interview.

2.2 Site Description

The Ypsilanti Township Landfill is a 35 acre inactive landfill located at the northeast corner of Interchange 184 (Interstate I-94 and Whitaker-Huron Road) which is in the southern bounds of the City of Ypsilanti, Michigan, in Washtenaw County (sec. 16, T3S, R7E). (See Figure 2-1 for site location).

A four mile radius map of the Ypsilanti Township Landfill site is provided in Appendix A.

2.3 Site History

The 35 acre Ypsilanti Township Landfill was an open dump during the 1950's and 1960's which ceased operations due to numerous complaints of smoke and odor from the nearby residents. No record can be found stating if the landfill was properly closed (i.e. capped with clay and/or soil and vegetation) nor can any records be located documenting what was deposited in the site. Several barrels were alleged to be on the site in the past but their contents were never tested nor is there any records of the barrels being removed from the area. During its operation, waste was burned on the site and there are several newspaper reports detailing the accidents on Interstate I-94 caused by thick smoke coming from these landfill fires. When the freeway interchange was constructed in the late 1970's, the southern one third of the landfill site was graded over and covered with grass. Presently, the site has a thick vegetative cover ranging from tall grass and brush in the northern

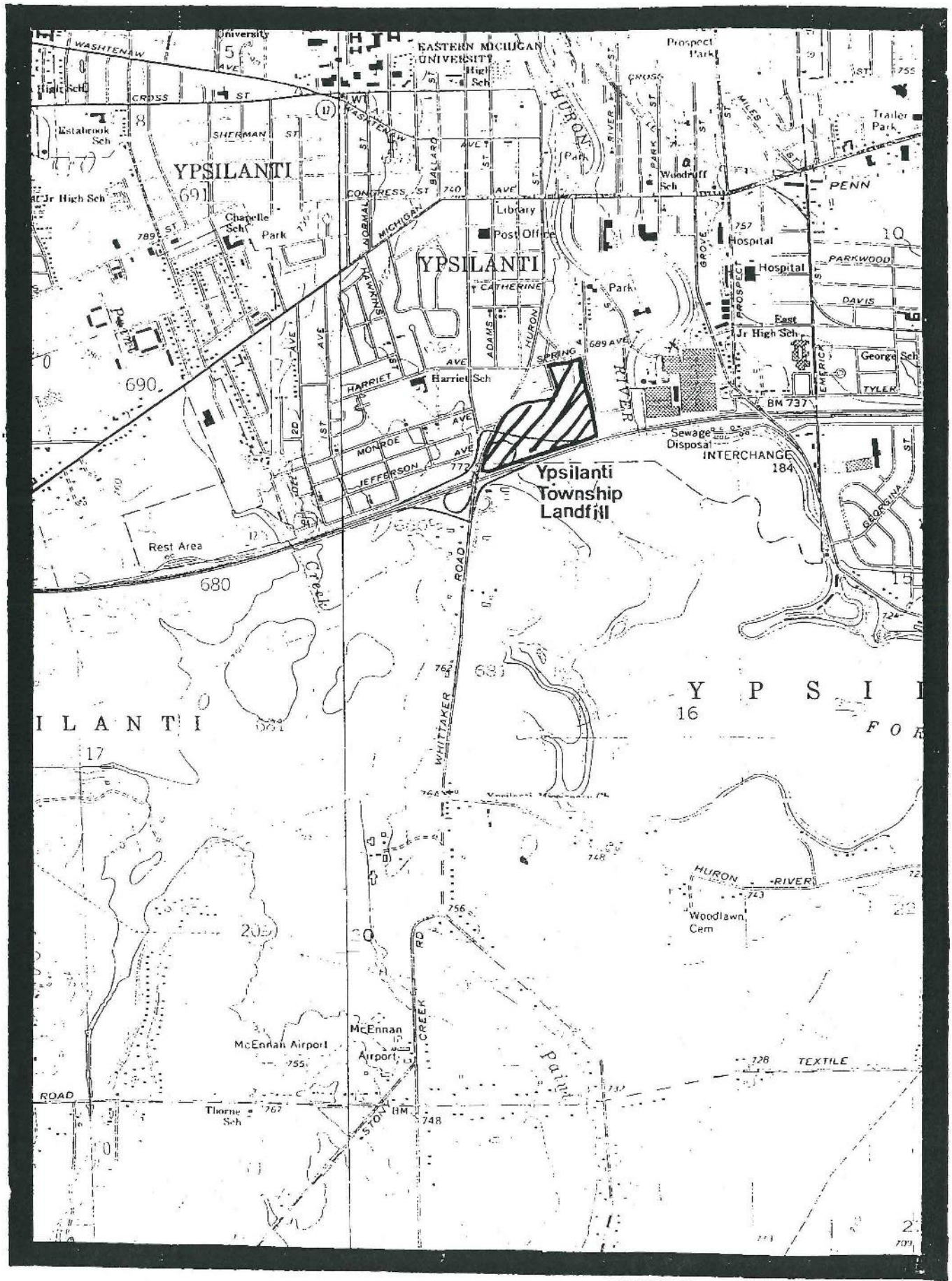


Figure 2-1 Site Location USGS Topo Map

third and the western edge of the landfill to trees and thick brushy undergrowth in the area adjacent to the interchange. The site is not fenced allowing unlimited access to the area. No containment of any type has been constructed around the landfill. A county drain bisects the landfill emerging from a culvert in the middle of the site between the west arm and lower portion of the fill and flows into the Huron River located approximately 1000 feet east of the site. The river flows south into Ford Lake which is located on the other side of Interstate I-94.

In 1987, representatives of the Washtenaw County Health Department collected water samples from several suspected leachate seepage points seen in the on-site drain at the request of the City of Ypsilanti. The results of the tested samples detected some contaminants, specifically heavy metals, slightly above the drinking water standards. At the time, the City of Ypsilanti was in the process of selling the parcel to a private party for partial development into a mini storage business. The sale was never completed, however; the City of Ypsilanti continues to be the owner of record of the landfill.

3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OPERATIONS

3.1 Introduction

This section outlines procedures and observations of the SSI of the Ypsilanti Township Landfill site. Individual subsections address the site representative interviewed, reconnaissance inspection, and sampling procedures. Rationales for specific activities are also provided. The SSI was conducted in accordance with the U.S. EPA approved work plan.

The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for Ypsilanti Township Landfill is provided in Appendix B. The U.S. EPA Immediate Removal Action Checklist for the Ypsilanti Township Landfill site is provided in Appendix C.

3.2 Site Representative Interview

Mr. George Carpenter conducted a site representative interview via phone with Mr. Robert Sloan, Ypsilanti City Manager, previous to conducting the Screening Site Inspection.

3.3 Reconnaissance Inspection

The investigation team conducted a reconnaissance inspection of the Ypsilanti Township Landfill site and surrounding area in accordance with Michigan Department of Natural Resources Health and Safety guidelines (MDNR,1988) on May 15, 1990. The reconnaissance inspection included a walk-through of the site to determine appropriate health and safety requirements for conducting on-site activities and to make observations to aid in characterizing the site. The team also determined contaminated spots and other sampling locations during the reconnaissance inspection.

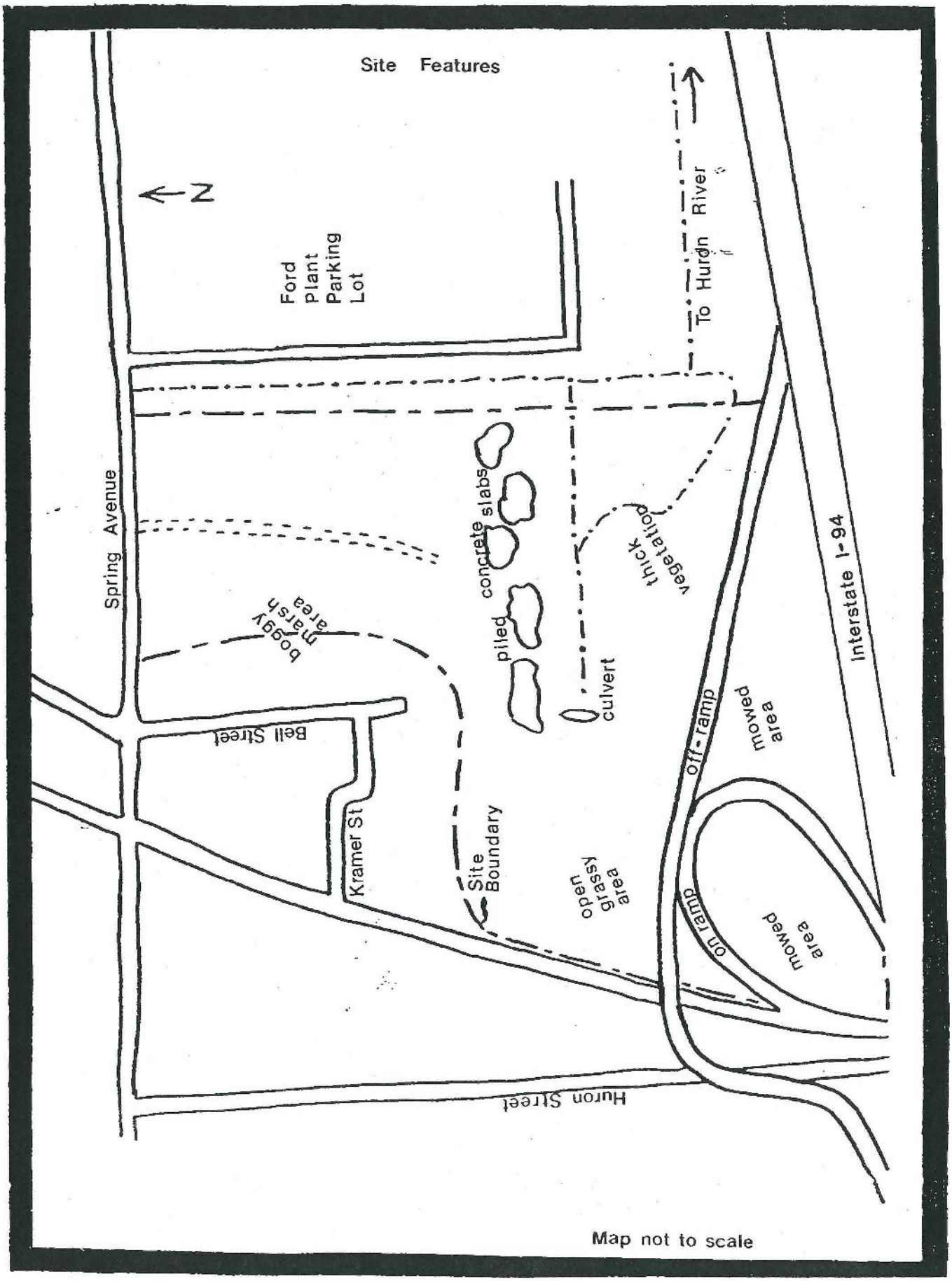
Reconnaissance Inspection Observations. The Ypsilanti Township Landfill site is a reversed L-shaped area bordered by residential areas along the north and west, Interstate I-94 to the south and the county drain and the parking lot of the Ford Motor Company Plant to the east. The main entrance to the site is a two-track dirt road off of Spring Avenue. The site is not fenced. The topography along the boarder with the residential areas is steep with a noticeable 15 to 20 feet drop to the northern arm of the landfill. The northern portion of the landfill is marshy with a thick grass cover. Several drainage areas from the western face were observed during the site inspection in this area. Near the drainage ditch there is a line of irregularly shaped concrete slabs edging a second drop of approximately five feet into the drainage area. This area is filled with recent deposits of construction/demolition debris, soil and vegetation cuttings. South of the ditch, the landfill has a forested cover and thick undergrowth of brush before encountering the graded and grass covered portion of the landfill onto which the interchange for the interstate was constructed. This area had been recently mowed as part of the freeway maintenance. The western section of the site is open field and grassy. Throughout the landfill area, disposed refuse was observed. In portions of the landfill behind the residences, piles of recently disposed refuse was seen. (see Figure 3-1).

Site photographs for Ypsilanti Township Landfill are provided in Appendix D.

3.4 Sampling Procedures

Samples were collected by the investigation team at locations selected during the reconnaissance inspection to determine if levels of U.S. EPA Target Compound (TCL) compounds and Target Analyte List (TAL) analytes were present at the site. The TCL and TAL lists are included with the corresponding quantitation/detection limits in Appendix E.

Figure 3-1


Site Features
N
Ford Plant Parking Lot
To Huron River
Spring Avenue
concrete slabs
thick vegetation
boggy marsh area
piled
culvert
Interstate I-94
off-ramp
mowed area
Bell Street
Kramer St
Site Boundary
open grassy area
on ramp
mowed area
Huron Street
Map not to scale

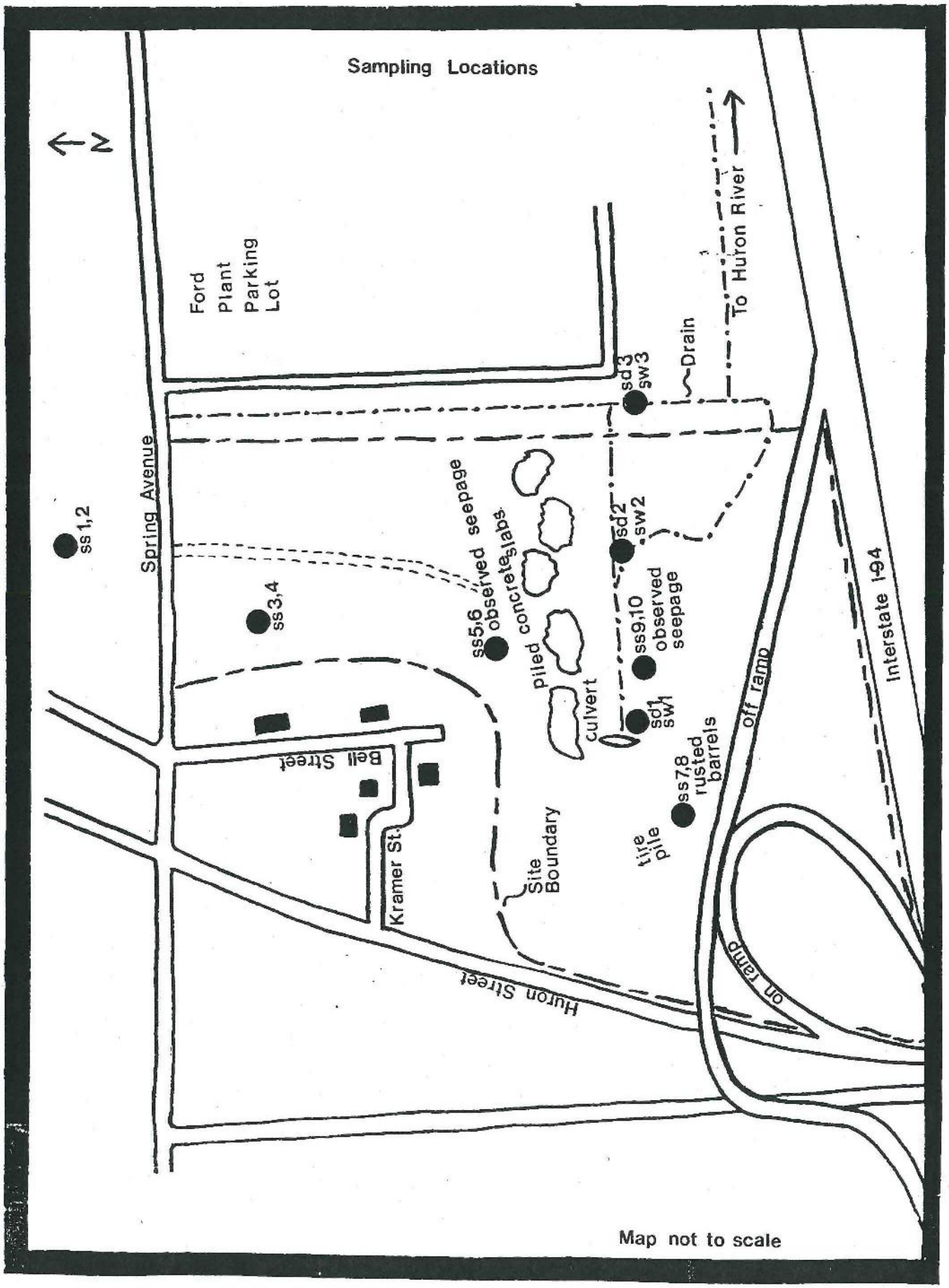
On May 15, 1990, MDNR collected ten soil samples, including two designated background samples, three sediment samples and three surface water samples from suspected areas of contamination at the Ypsilanti Township Landfill site (see Figure 3-2).

Standard MDNR decontamination procedures were adhered to during the collection of the soil and sediment samples. The procedures included the scrubbing of all equipment with a solution of Alconox detergent and distilled water and triple-rinsing of the equipment with distilled water before the collection of each sample (MDNR 1988).

All soil samples were collected using a dedicated auger at depths of approximately one foot and four feet. The soil at each location was mixed together with a hand trowel in an aluminum pan so that all unusable debris was removed and a homogeneous, representative sample could be obtained. Soil from each sampling location was then transferred directly to sample bottles using the hand trowel. The sediment samples were collected with a sediment corer before transference to an aluminum pan. After all visible debris was removed, the samples were homogenized and transferred to the sample containers using the trowels. The surface water samples were collected by the total immersion of the sample containers into the water. All soil, sediment and surface water samples were packaged and shipped in accordance with U.S. EPA required procedures.

Soil Sampling Locations Soil Samples 1 and 2 (SS1 and SS2), the designated background samples, were collected in a grassy area near an abandoned home on the north side of Spring Avenue as representative of the chemical content of the soil in the area surrounding the site. SS1 was collected at a depth of one foot and SS2 at a depth of four feet. Soil Samples 3 and 4 (SS3 and SS4) were collected from a marshy, thickly vegetative area along the western edge of the landfill at a depth of one foot and four feet respectively. Soil samples 5 and 6 (SS5 and SS6) were collected in an area of observed leachate seepage near the piled concrete slabs at a depth of one foot and four feet respectively. Soil Samples 7

Figure 3-2


Sampling Locations
N
Ford Plant Parking Lot
Spring Avenue
To Huron River
Drain
sd3
sw3
sd2
sw2
sd1
sw1
ss 1,2
ss 3,4
ss5,6 observed seepage
concrete slabs
piled
culvert
ss9,10 observed seepage
ss7,8 rusted barrels
tire pile
Site Boundary
Bell Street
Kramer St.
Huron Street
off ramp
on ramp
Interstate I-94
Map not to scale

and 8 (SS7 and SS8) were collected near several rusted barrel remains in the southern edge of the site on the verge of the forested and graded freeway interchange area at a depth of one foot and four feet respectively. Soil Samples 9 and 10 (SS9 and SS10) were collected at a second observed leachate seepage area beyond the culvert opening at a depth of one foot and four feet respectively.

Sediment Sampling Locations Sediment Sample 1 (SD1), the designated upgradient sample, was collected from the drainage ditch at the mouth of the culvert at a depth of approximately six to eight inches. Sediment Sample 2 (SD2) was collected in the forked junction of the drainage ditch at a depth of approximately six to eight inches. Sediment Sample 3 (SD3) was collected from the drainage ditch downgradient of the site at a depth of six to eight inches. All three sediment samples were collected from suspected depositional areas in the ditch bed.

Surface Water Sampling Locations Surface Water Sample 1 (SW1), the designated upgradient sample, was collected from water in the drainage ditch at the mouth of the culvert. Surface Water Sample 2 (SW2) was collected from water at the forked junction of the drainage ditch on site. Surface water 3 (SW3) was collected from the drainage ditch downgradient of the site. All three surface water samples were collected in the same vicinity as their corresponding sediment samples from water flowing in the ditch.

A field blank sample was collected in accordance with U.S. EPA quality assurance/quality control (QA/QC) requirements and was prepared from distilled water used during the site inspection. The field blank was packaged and shipped in accordance with U.S. EPA required procedures.

All soil, sediment and surface water samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by the U.S. EPA, all soil, sediment and surface water samples were analyzed under the U.S. EPA Contract Laboratory Program for TCL compounds by ENSECO-ERCO Cambridge of Cambridge, Massachusetts and for TAL analytes by Associated Labs, Incorporated (ALI) Orange, California. California.

4. ANALYTICAL RESULTS

4.1 Introduction

This section includes results of chemical analysis of soil, sediment and surface water samples for TCL compounds and TAL analytes.

4.2 Results of Chemical Analysis of Samples

Soil Samples. Analysis of soil samples revealed substances from the following groups of TCL compounds and TAL analytes: metals, PAH's and normal soil constituents. (See Table 4-1 for complete soil sample chemical analysis results).

Sediment Samples Analysis of the sediment samples revealed substances from the following groups of TCL compounds and TAL analytes: metals, PAH's, and normal soil constituents. (See Table 4-2 for complete sediment sample chemical analysis results).

Surface Water Samples Analysis of the surface water samples revealed substances from the following groups of TCL compounds and TAL analytes: metals. (See Table 4-3 for complete surface water sample chemical analysis results).

Laboratory analytical data and Contract Laboratory Program (CLP) quantification/detection limits of soil, sediment and surface water sample analysis are provided in Appendix E.

Results of Chemical Analysis
of Soil Samples

02/12/91

Sample Collection Information and Parameters	SS1 (BACKGROUND)	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10
Date Sampled: 05/15/90										
Organic Traffic Report#:	EZ411	EZ412	EZ413	EZ414	EZ415	EZ416	EZ417	EZ418	EZ419	EZ420
Inorganic Traffic Report#:	MEZ601	MEZ602	MEZ603	MEZ604	MEZ605	MEZ606	MEZ607	MEZ608	MEZ609	MEZ610

Compounds Detected (organic values in ug/kg)
(inorganic values in mg/kg)

Organic/Inorganic: IND

CHEMICAL NAME										
ALUMINUM	5530	8010	7350	7660	1860	1330	4030	3470	957	2300
ANTIMONY	10.9B	11.0B	----	9.2B	----	----	8.6B	5.5B	8.6B	9.9B
ARSENIC	6.6	7.1	9.3	3.2	1.7B	1.2B	3.9	2.3	3.4	10.6
BARIUM	51.6B	65.1	43.6B	44.3B	132B	133B	1.2	20.7B	227	132
BERYLLIUM	0.68B	1.0B	0.80B	0.55B	----	----	0.63B	----	----	----
CALCIUM	81300	74100	32100	52000	15400	213000	156000	30800	303000	195000
CHROMIUM	11.5	16.5	12.0	11.9	7.6	----	39.3	30.1	3.5	5.0
COBALT	4.2B	4.0B	5.3B	3.0B	----	----	3.5B	3.6B	----	----
COPPER	20.2	18.5	15.9	15.4	8.7B	5.7B	16.5	12.9	8.9	16.6
IRON	14500	19900	12100	12000	4620	4410	19900	6340	13500	13900
LEAD	27.4*	16.8*	29.2S*	35.7S*	58.5S*	34.2+	21.0N*	14.1N*	6.1N*	4.2N*
MAGNESIUM	15900	12900	7310	5960	4710	3990	3540	5050	3040	6790
MANGANESE	185	210	173	222	485	616	341	165	350	311
MERCURY	----	----	----	----	----	----	0.10	----	----	0.41
NICKEL	14.1	15.9	12.7	14.1	----	----	12.6	15.3	----	6.9B
SILVER	5.2	5.9	5.3	4.9	13.4	10.5	4.1	5.2	3.8	4.2
SODIUM	267B	736B	321B	169B	664B	645B	265B	76.5B	472B	533B
THALLIUM	----	----	1.3B	----	----	----	----	----	----	----
VANADIUM	19	21.4	21.5	21.3	14.8	10.1B	15.6	12.4	7.06	9.1B
ZINC	51.3	59.7	46.9	46.5	43.5	17.1B	79.5	122	22.9	38.8

Data Qualifiers: B = Found in Blank & Sample (Organics); ---- = Value Not Detected; J = Estimated Value;
N = Spike outside QC limits; S = Method of Standard Additions; * = Duplicate outside QC limits;
R = Value rejected or not reported due to presence of interference (Inorganics);
W = Post digestion spike outside QC limits and sample absorbance < 50% spike absorbance;
E = Exceeds concentration range (Organics); E = Estimated quantity; D = Secondary Dilution;
+ = Correlation coefficient for Method of Standard Additions < 0.995;
B = Value is between detection limit and contract-required detection limit (Inorganics);
= [illegible]

Results of Chemical Analysis
of Soil Samples

02/12/91

Sample Collection Information and Parameters	SS1 (BACKGROUND)	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10
Date Sampled: 05/15/90										
Organic Traffic Report#:	EZ411	EZ412	EZ413	EZ414	EZ415	EZ416	EZ417	EZ418	EZ419	EZ420
Inorganic Traffic Report#:	MEZ601	MEZ602	MEZ603	MEZ604	MEZ605	MEZ606	MEZ607	MEZ608	MEZ609	MEZ610

Compounds Detected (organic values in ug/kg)
(inorganic values in mg/kg)

Organic/Inorganic: ORG

CHEMICAL NAME	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10
2-METHYLNAPHTHALENE	----	----	----	----	----	----	90J	----	----	77J
4,4'-DDD	97J	49J	----	----	----	----	----	----	----	----
4,4'-DDE	65J	32J	2.2J	----	----	----	38J	----	----	----
4,4'-DDT	25J	----	----	----	----	----	----	----	----	----
ACENAPHTHENE	----	----	----	----	----	----	100J	----	----	----
ACENAPHTHYLENE	----	----	----	----	----	----	210J	----	----	72J
ACETONE	16B	23B	25B	58J	50B	65B	29J	----	11BJ	38B
ANTHRACENE	62J	----	----	----	----	----	510	----	69J	150J
BENZO(a)ANTHRACENE	290J	57J	51J	----	510J	500J	2100	----	160J	330J
BENZO(a)PYRENE	350J	----	47J	----	440J	470J	1700	----	120J	240J
BENZO(b)FLUORANTHENE	430J	65J	60J	----	610J	720J	2500	----	130J	370J
BENZO(g,h,i)PERYLENE	260J	----	84J	----	490J	370J	1300	----	77J	----
BENZO(k)FLUORANTHENE	320J	----	80J	----	500J	490J	1500	----	120J	220J
BENZYLBUTYL PHTHALATE	----	----	----	----	----	----	----	----	62J	300J
BIS(2-ETHYLHEXYL)PHTHALATE	----	----	----	----	----	----	----	1000J	----	----
CHRYSENE	370J	47J	64J	----	650J	580J	1800	----	130J	330J
DIBENZO(a,h)ANTHRACENE	55J	----	43J	----	----	----	----	----	----	----
DIBENZOFURAN	----	----	----	----	----	----	170J	----	----	95J
DIELDRIN	----	----	3.7J	----	----	----	----	----	----	----
DIETHYLPHTHALATE	42J	350J	----	----	----	----	----	----	----	----
FLUORANTHENE	650	110J	110J	----	1200J	1100J	3400	----	400J	940
FLUORENE	----	----	----	----	----	----	140J	----	62J	250J
INDENO(1,2,3-cd)PYRENE	270J	----	75J	----	540J	410J	1600	----	87J	----
METHYLENE CHLORIDE	8	7	5	4	11	17	11	20	50	16
PYRENE	400	110J	84J	----	1600	1400	2800	1600J	120J	720

Data Qualifiers: B = Found in Blank (Organics); -- = Value Not Detected; J = Estimated Value;
[illegible]; S = Result by Standard Addition; * = Duplicate outside QC limits;
[illegible] or not reported due to presence of interference (Inorganics);
[illegible] sample absorbance [illegible] spike absorbance;
E = [illegible] range (Organics); [illegible]; D = Secondary Dilution;
[illegible]
[illegible]
[illegible]

Results of Chemical Analysis
of Sediment Samples

Sample Collection Information and Parameters	SD1 (UPSTREAM)	SD2	SD3	SD4	SD5	SD6	SD7	SD8	SD9
Date Sampled:05/15/90									
Organic Traffic Report#:	EZ422	EZ423	EZ424						
Inorganic Traffic Report#:	MEZ612	MEZ613	MEZ614						

Compounds Detected (organic values in ug/kg)
(inorganic values in mg/kg)

Organic/Inorganic:INO

CHEMICAL NAME	SD1	SD2	SD3
ALUMINUM	3790	4240	5610
ANTIMONY	17.1B	16.4B	12.8B
ARSENIC	6.6	5.8	6.8
BARIUM	73.4	77.2B	56.0
BERYLLIUM	0.69B	1.00B	1.1B
CADMIUM	1.7	----	----
CALCIUM	74500	134000	69800
CHROMIUM	41.5	27.1	17.1
COBALT	3.9B	----	6.0B
COPPER	21.0	50.3	26.1
IRON	14000	23400	17900
LEAD	27.1*	150*	54.5*
MAGNESIUM	17500	18200	13200
MANGANESE	222	489	456
NICKEL	13.6	15.5B	15.0
POTASSIUM	8178	8480	11408
SILVER	5.8	7.9	6.6
SODIUM	3308	3768	4078
VANADIUM	15.4	16.3B	19.3
ZINC	12?	152	56.6

Data Qualifiers: B = Found in Blank & Sample (Organics); ---- = Value not Detected; J = Estimated Value;
N = Spike outside QC Limits; S = Method of Standard Additions; * = Duplicate outside QC limits;
E = Value estimated or not reported due to presence of interference (Inorganics);
+ = Post-digestion spike outside QC limits and sample absorbance < 50% spike absorbance;
Q = Estimated quantity; E = Concentration above instrument calibration limits (Organics);
D = Secondary Dilution Factor; B = Concentration above instrument detection limits but below contract-required detection limits (Inorganics); -- = Data for this parameter is currently unavailable (see text);
= sample not analyzed (see text).

Results of Chemical Analysis
of Sediment Samples

Sample Collection Information and Parameters	SD1 (UPSTREAM)	SD2	SD3	SD4	SD5	SD6	SD7	SD8	SD9
Date Sampled: 05/15/90									
Organic Traffic Report#:	E2432	E2425	E2434						
Inorganic Traffic Report#:	ME2612	ME2613	ME2614						

Compounds Detected (organic values in ug/kg)
(inorganic values in mg/kg)

Organic/Inorganic: ORG

CHEMICAL NAME	SD1	SD2	SD3
2-METHYLNAPHTHALENE	98J	----	----
4-METHYLPHENOL	280J	----	500J
ACENAPHTHENE	480	----	----
ACENAPHTHYLENE	230J	----	1500J
ACETONE	110J	120J	23B
ANTHRACENE	1100	2700J	1700J
BENZO(a)ANTHRACENE	5200	6400J	6100J
BENZO(a)PYRENE	4000	5600J	6600
BENZO(b)FLUORANTHENE	----	7800J	7800
BENZO(g,h,i)PERYLENE	2200	4800J	5900
BENZO(k)FLUORANTHENE	9700E	5800J	7200
BENZOIC ACID	420J	----	520J
BENZYL BUTYL PHTHALATE	430J	----	----
BIS(2-ETHYLHEXYL)PHTHALATE	1300	1900J	----
CHRYSENE	4400	7500J	6500
DI-n-BUTYL PHTHALATE	240J	----	----
DIBENZO(a,h)ANTHRACENE	1100	----	1100J
DIBENZOFURAN	270J	----	450J
DIMETHYLPHTHALATE	23J	----	----
FLUORANTHENE	----	16000J	13000
FLUORENE	500	----	300J
INDENO(1,2,3-c,d)PYRENE	3400	5400J	6400
METHYLENE CHLORIDE	33	76B	60
NAPHTHALENE	100J	----	490J
PHENANTHRENE	5200	9400J	7100
PYRENE	8100E	12000	12000

Data Qualifiers: B = Found in Blank & Sample (Organics); (-) = Value Not Detected; J = Estimated Value;
N = Spike outside QC Limits; S = Method of Standard Addition; * = Duplicate outside QC limits;
E = Value estimated or not reported due to presence of interference (Inorganics);
W = Post-digestion spike outside QC limits and sample absorbance < 50% spike absorbance;
+ = [illegible] E = Concentration exceeds instrument calibration limits (Organics);
D = [illegible] F = Concentration above instrument detection limits but below contract-
required detection limits (Inorganics) [illegible] = Data for this parameter is currently unavailable (see text)
[illegible]

Results of Chemical Analysis
of Surface Samples

Sample Collection Information and Parameters	SW1	SW2	SW3	FB	SW5	SW6	SW7	SW8	SW9
	(UNGROUND)								
Date Sampled: 05/15.91									
Organic Traffic Report#	EI425	EZ426	EZ427	EZ431					
Inorganic Traffic Report#	MEZ615	MEZ616	MEZ617	MEZ611					

Compounds Detected (organic values in ug/l;
inorganic values in ug/l)

Organic/Inorganic: 140

CHEMICAL NAME				
MAGNESIUM	41500	41700	39700	----
ANTIMONY	44.6B	41.5B	42.5B	----
BARIUM	227	222	209	----
CALCIUM	181000	179000	170000	1230
IRON	67.7B	51.5B	42.1B	----
MANGANESE	201	195	177	----
POTASSIUM	5941	6180	6810	265JB
SILVER	15.2	19.4	15.3	33.3
SODIUM	107000	107000	116000	----
VANADIUM	11.6B	12.4B	12.0B	16.3B
ZINC	----	24.1	22.0	----

Data Qualifiers: B = Found in Blank & Sample (Organics); (-) = Value Not Detected; J = Estimated Value; Q = Estimated Quan
N = Spike outside QC Limits; S = Method of Standard Addition; E = Exceeds Concentration Range (Organics);
* = Post-digestion spike outside QC limits & sample absorption < 50% spike absorption;
W = Value < instrument detection limit but < contract-required detection limit (Inorganics);
E = Estimated value due to interference (Inorganics); + = Duplicate outside QC limits.

-1-

Results of Chemical Analysis
of Surface Samples

Sample Collection Information and Parameters	SW1	SW2	SW3	FB	SW5	SW6	SW7	SW8	SW9
				(UNASSIGNED)					
Date Sampled:02/15/90									
Organic Traffic Report#:	EZ423	EZ426	EZ427	EZ421					
Inorganic Traffic Report#:	MEZ613	MEZ616	MEZ617	MEZ611					

Compounds Detected (organic values in ug/l)
(inorganic values in ug/l)

Organic/Inorganic:ORG

CHEMICAL NAME				
BIS(2ETHYLHEXYL)PHTHALATE	8J	----	----	9J
DIETHYLPHTHALATE	----	----	----	3J

Data Qualifiers: B = Found in Blank & Sample (Organics); U = Value Not Detected; J = Estimated Value; Q = Estimated Quant
N = Spike outside QC limits; S = Method of Standard Addition; E = Exceeds Concentration Range (Organics);
W = Post-digestion spike outside QC limits & sample absorption < 50% spike absorption;
B = Value >= instrument detection limit but < contract-required detection limit (Inorganics);
E = Estimated value due to interference (Inorganics); * = Duplicate outside QC limits.

-1-

DATA QUALIFIER DEFINITIONS

The following qualifiers are used by data validation personnel. The code letters are listed below with associated definitions.

INORGANIC

U - The material was analyzed for, but was not detected.

J - The associated numerical value is an estimated quantity because quality control criteria were not met.

R - Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.

Z - No analytical result.

UJ - Sample was analyzed, but not detected. The associated numeric value is an estimated quantity because quality control criteria were not met.

B - Found in blank.

ORGANIC

U - The material was analyzed for, but was not detected.

J - The associated numerical value is an estimated quantity.

R - The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.

N - Presumptive evidence of presence of material.

NJ - Presumptive evidence of the presence of the material at an estimated quantity.

UJ - The material was analyzed for, but was not detected. The associated numeric value is an estimated quantity because quality control criteria were not met.

LABORATORY QUALIFIER DEFINITIONS

The following qualifiers are used by laboratories performing the analyses. The 7 qualifiers defined below are not subject to modification by the laboratory.

INORGANIC

[ ] -*If the result is a value greater than or equal to the instrument detection limit but less than the contract-required detection limit. report the value in brackets (i.e., [10]).

U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

S - Indicates value determined by Method of Standard Addition.

N - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995.

M - Indicates duplicate injection results exceeded control limits.

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

METHOD QUALIFIER (Enter):

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- "NR" if the analyte is not required to be analyzed

* The [ ] symbol has been replaced in the new SOW with the symbol "B" for brackets.

LAB QUALIFIERS (cont'd)

ORGANICS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C - This flag applies to pesticide results where the GC identification has been confirmed by GC/MS. Single component pesticides $\geq$ 10 ng/ul in the final extract shall be confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

LAB QUALIFIERS (cont'd)

ORGANICS (cont'd)

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. If more than one is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

5. DISCUSSION OF MIGRATION PATHWAYS

5.1 Introduction

This section discusses data and information that apply to potential migration pathways and possible sources of contamination with TCL compounds and/or TAL analytes that may be attributable to the Ypsilanti Township Landfill site.

The five migration pathways of concern discussed are groundwater, surface water, air, direct contact, and fire and explosion.

5.2 Groundwater

Analysis of the on-site samples indicated TAL analytes and TCL compounds have the potential to migrate into the soil and into the groundwater. TCL compounds detected at elevated levels include fluoranthene at 3900 ug/kg, ideno(1,2,3-cd)pyrene at 1600 ug/kg, benzo(a)anthracene at 2100 ug/kg, benzo(b)fluoranthene at 1700 ug/kg, benzo(g,h,i)perylene at 1300 ug/kg, benzo(k)fluoranthene at 1600 ug/kg, chrysene at 1800 ug/kg. The TAL analyte chromium was detected in one soil sample at 39.3 mg/kg.

The geology of the area consists of fine to medium texture sand and gravel, rich in metamorphic and igneous rocks with intervening layers or lenses of lacustrine clay. Underlying these surficial deposits are sedimentary rocks of the Mississippian and Devonian Age which include the Antrim and Sunberry Shale, the Berea Sandstone and the Medford Shale. According to well logs within the four mile radius from the area, there are at least two major aquifers present: a shallow glacial aquifer at a depth of twelve to twenty feet and a bedrock aquifer at a depth of ninety to 100 feet. Regional groundwater flow in the vicinity of the site is to the south, toward Ford Lake while locally the groundwater flow of the

shallow aquifer is to the south, southeast toward the Huron River. According to the well logs, the bedrock aquifer is protected by a continuous overlaying clay layer. A second clay layer appears to lie underneath the shallow glacial aquifer as well.

The population within a four mile radius of the site receives its water from three municipal water supply systems.

The Ypsilanti Township Wells (also known as the Bridge Road Township Wells) are located 3.5 miles southeast of the site and serve approximately 50,000 persons in Ypsilanti Township; 15,000 persons in Pittsfield Township; 600 persons in Sumpter Township; 300 persons in Augusta Township; and 1,500 persons at the Ypsilanti State Hospital in York Township. By the end of 1992, water from these wells will no longer be used as the the system will be connected to the City of Detroit Municipal Water Supply.

The City of Ypsilanti Wells, located at 1/4 and 2 miles north and northwest of the site is blended with surface water obtained through the Geddes Pond intake on the Huron River approximately 4 miles northwest of the site. This blended water serves approximately 24,000 persons in the City of Ypsilanti. The three municipal wells located on Catherine Street approximately 1/4 mile north of the site were not sampled since they were upgradient of the landfill and there are no monitoring wells nor private residential wells downgradient of the site to use for comparison of sampled results of possible groundwater contamination by the landfill.

The City of Ann Arbor Municipal Water Supply System receives its water from the Barton Pond Surface Water Intake approximately ten miles northwest of the site. Water from this intake is blended with water from several municipal wells located within the city limits.

Well logs for the City of Ypsilanti Wells indicate they are screened in the bedrock aquifer and protected by a continuous overlying clay layer. Well logs of the township wells indicate they are also screened in the bedrock aquifer. Therefore, the population served by these two municipal water systems do not appear to be potential targets of contaminants migrating into the shallow groundwater aquifer from the Ypsilanti Township Landfill.

5.3 Surface Water

There is a direct pathway for continuous migration of contaminants from the site to the nearest downgradient surface water body which is the on-site drainage ditch. The terrain of the landfill site is uneven allowing unimpeded overland flow of surface water from the site into the drainage ditch which flows into the Huron River and then into Ford Lake. During the screening site inspection of this site, it was observed that the northern portion of the landfill had standing water which gave the area a marsh like quality. Semi-aquatic plants such as cattail and sedges were observed indicating the area is wet throughout the year. Heavy metals, including chromium, mercury and zinc and PNA's (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, fluoranthene, fluorene and indeno(1,2,3-cd)pyrene) were detected in the soil and especially sediment and surface water samples taken from the drain which could be associated with the landfill. Elevated levels of PNA's detected in the background sediment sample suggest upstream sources may be adding to the problem at Ypsilanti Township Landfill. PNA's can also be attributable to the landfill because the soil samples taken south of the drainage ditch all revealed high levels which could be migrating down from the higher area of the landfill as either leachate seepage or via overland flow. Currently, Ford Lake has a known PNA contamination problem and this site could be a source contributor.

The Geddes Pond Surface water intake for the City of Ypsilanti Municipal Water Supply System is located approximately four miles upstream of the site in the Huron River and there are no surface water intakes found south and downgradient of the site.

5.4 Air

A release of potential contaminants to the air was not documented during the SSI of the Ypsilanti Township Landfill. During the reconnaissance inspection, site-entry instruments (photo-ionization detector, explosimeter, oxygen meter, and radiation monitor) did not detect levels above background concentrations at the site (MDNR, 1988). In accordance with the U.S. EPA approved work plan, further air monitoring was not conducted.

5.5 Fire and Explosion

A potential for fire and explosion does not appear to exist at the Ypsilanti Township Landfill site. This observation is based on readings obtained with site-entry equipment during the SSI (OVA and explosimeter), analytical data from samples collected at the site and reconnaissance observations.

5.6 Direct Contact

According to Federal, State, and local file information, no documentation exists of an incident of direct contact with TCL compounds or TAL analytes at the Ypsilanti Township Landfill site.

A potential exists that the public may come in direct contact with TCL compounds and TAL analytes detected at the site. The potential for direct contact is based on the following information:

Access to the site property is not restricted; no fencing or other means of limiting access to the site are utilized. Also, several private residences boarder along the landfill with no restricted access to the site evidenced by several recent piles of household refuse observed during the site reconnaissance.

TCL compounds and TAL analytes have been detected in onsite soils, sediments and surface water including chromium, zinc, mercury and elevated levels of PAH's.

The population for a one mile radius around the site is 12,301; for a two mile radius 21,924; and for a three mile radius 29,103. The Direct Contact population for the area in a three mile radius will be 29,103 people. This population was calculated using United States Geological Survey (USGS) topographic maps of the area to count the number of houses located within the three mile radius of the site multiplied by the 1980 US Census person-per-household value of 2.62 for Washtenaw County and by calculating the portion of the population of the City of Ypsilanti lying within the three mile radius of the site.

6. BIBLIOGRAPHY

Fairbanks, Cindy, Field Notes Ypsilanti Township Landfill Screening site Inspection, 1990

MDNR, Act 307 Section Files on Ypsilanti Township Landfill Site

MDNR, Field Inspection Procedure Manual, 1988

MDNR, Municipal Water Withdrawal in Michigan, 1982

MDOT, Population Zone Maps, 1983

US Bureau of the Census, 1980 Census of Population and Housing, 1981

Appendix A

Site 4-Mile Radius Map

SDMS US EPA Region V

Imagery Insert Form

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APPENDIX A – SITE 4-MILE RADIUS MAP

☐ Document is available at the EPA Region 5 Records Center.

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Appendix B

U.S. EPA Form 2070-13

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980991067

II. SITE NAME AND LOCATION

Ypsilanti Twp LF	One South Huron					
Ypsilanti MI 48197	04 STATE: MI	05 ZIP CODE: 48197	06 COUNTY: Washtenaw	07 COUNTY CODE: 161	08 CONG DIST: 15	

09 COORDINATES: LATITUDE 42 13 45 | LONGITUDE 83 32 00

10 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☒ E. MUNICIPAL
☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
05 15 90 (MONTH DAY YEAR)	☐ ACTIVE ☒ INACTIVE	1950 (BEGINNING YEAR) | 1970(?) (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☒ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Cindy Fairbanks	EQA IV-VI	MDNR	(517) 335-4111

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
George Carpenter	EQA VII	MDNR	(517) 373-4800
Jim Milne	EQA VI	MDNR	(517) 373-4800
Joe Walczak	EQA IV-VI	MDNR	(517) 373-4800
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
None			( )
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	9 am	Cloudy, cool

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Cindy Fairbanks	MDNR-ERD Superfund Sec	(517) 335-4111

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Cindy Fairbanks	MDNR	—	(517) 335-4111	3 6 91 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
26	980991087

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER (Specify)
- [ ] E. SLURRY
- [X] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: Unknown

CUBIC YARDS:

NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [X] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			Unknown
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	N/A				

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	N/A		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR Act 307 Site files- Ypsilanti Township Landfill
SSI Ypsilanti Township Landfill May, 1990

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980991087

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: ~29,000
02 ☐ OBSERVED (DATE: _____) [X] POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NO monitoring well or private well data available for confirmation. Area on municipal supply from protected aquifer.

01 [X] B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: ~29,000
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL [X] ALLEGED
04 NARRATIVE DESCRIPTION
Historical Documentation of alleged leachate seepage into the drain ditch; sampling conducted.

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: mid 1960's) ☐ POTENTIAL [X] ALLEGED
04 NARRATIVE DESCRIPTION
Documented evidence of burning waste in the landfill (historical)

01 [X] E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) [X] POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No fencing around the site; boundary adjacent to several residential yards.

01 ☐ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 35 (Acres) (area of Site)
02 [X] OBSERVED (DATE: 5/15/90) ☐ POTENTIAL [X] ALLEGED
04 NARRATIVE DESCRIPTION
SSI soil sample results (see text section 4)

01 ☐ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A Residents on municipal water supply

01 ☐ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A None documented

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980991087

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
N/A

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: 11/81) ☐ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Documented seepage into drain; sampling occurred to confirm release (historical)

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
N/A

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION
Possible recent dumping has occurred since landfill stopped operations. Fresh garbage evident on site recon.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
N/A

III. TOTAL POPULATION POTENTIALLY AFFECTED: 29,103 for 3 mile radius

IV. COMMENTS
N/A

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
MDNR Act 307 Site files- Ypsilanti Township Landfill
SSI Ypsilanti Township Landfill, May 1990

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980991057

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA	N/A			
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☒ F. LANDFILL	unknown	acre
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)
- ☐ A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER NONE (Specify)

05 OTHER
- ☐ A. BUILDINGS ON SITE

None

06 AREA OF SITE
35 (Acres)

07 COMMENTS
None

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.
No diking, no liner, no capping or other containment structure built at the site. Thick vegetative cover over entire Landfill area.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO
02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

MDNR - Act 307 site files - Ypsilanti Twp LF
SSI Ypsilanti Township Landfill May 1990

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980991087

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ☒
NON-COMMUNITY	C. ☐	D. ☐

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☒
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE
A. < ¼ mile upstream (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)
☒ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER ~ 100,000
03 DISTANCE TO NEAREST DRINKING WATER WELL < ¼ (upstream) (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
80-100 (ft)	SE	100' (ft)	unknown (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including use, depth, and location relative to population and buildings)
Ypsilanti Twp wells (Bridge Road wells) 9 municipal wells at depths of ~150 to 200 ft; City of Ypsilanti wells 4 municipal wells at depths of ~100 ft; both provide water for City of Ypsilanti

10 RECHARGE AREA		11 DISCHARGE AREA	
☒ YES ☐ NO	COMMENTS	☐ YES ☒ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)
☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Huron River	☐	~ ¼ mile (mi)
Ford Lake	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 12,301 NO. OF PERSONS	B. 21,924 NO. OF PERSONS	C. 29,103 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION
< ¼ mile (residential)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE
Unknown; municipal area

04 DISTANCE TO NEAREST OFF-SITE BUILDING
< 100' Private residence

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)
Mixture of urban area with built up surburban sprawl intermixed with light industrial activities

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980991087

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-9}$ cm/sec ☒ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
~ 100 ft (ft)	unknown (ft)	unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
~1 (in)	~2.25 (in)	~3 %	N/A	~3 %

09 FLOOD POTENTIAL
SITE IS IN 100 YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)
ESTUARINE: A. _____ (mi)
OTHER: B. N/A (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
N/A (mi)
ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. ~ ¼ mile (mi)	B. 450' (mi)	C. — (mi)	D. — (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

See SSI report Sec 2.2 Site Description

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR- Act 307 site files- Ypsilanti Twp LF
SSI Ypsilanti Township Landfill May, 1990

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980991087

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	none		8/1990
SURFACE WATER	3	organic: NUSCO (ERCO Cambridge) Inorganic: Associated Labs, Inc (ALI)	
WASTE	none		
AIR	none		
RUNOFF	none		
SPILL	none		
SOIL	10 soil 3 SD	(Same as above)	8/1990
VEGETATION	none		
OTHER	none		

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNu	No readings above background
O2 meter	" " "
Explosimeter	" " "
Radiation Meter	" " "

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF MDNR- Pre Remedial Section ERD
(Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS: MDNR Act 307 Section Lansing, MI

V. OTHER FIELD DATA COLLECTED (Provide narrative descriptions)

None

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR Act 307 Site Files Ypsilanti Township Landfill
SSI Ypsilanti Township Landfill May, 1990

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980991087

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
City of Ypsilanti		One South Huron		Ypsilanti	MI	48197
Verle M. Crawford		521 Tyler		Ypsilanti	MI	48197

PARENT COMPANY (if applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (if applicable, list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR Act 307 site files - Ypsilanti Twp LF
SSI Ypsilanti Township Landfill May, 1990

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980791087

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) N/A	04 SIC CODE	
06 CITY	06 STATE / 07 ZIP CODE	

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) N/A	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) N/A	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR Act 307 site files- Ypsilanti Twp LF
SSI Ypsilanti Township Landfill

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
26	980991087

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ H. ON SITE BURIAL 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE	03 AGENCY

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: 26 | 02 SITE NUMBER: 980991087

II. PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR Act 307 Site files- Ypsilanti Twp LF
SSI Ypsilanti Township Landfill May 1990

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
26	980991087

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

N/A

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

MDNR - Act 307 Site files - Ypsilanti Twp LF
SSI Ypsilanti Township Landfill May 1990

EPA FORM 2070-13 (7-81)

Appendix C

U.S. EPA
Immediate Removal Action
Checksheet

Immediate Removal Action Check Sheet

	High	Moderate	Low
Fire and Explosion Hazard			
Flammable Materials			
Explosives			✓
Incompatable Chemicals			✓
Direct Contact with Acutely Toxic Chemicals			
Site Security	✓		
Leaking Drums or Tanks			
Open Lagoons or Pits			
Materials on Surface			
Proximity of Population			
Evidence of Casual Site Use			
Contaminated Water Supply			
Exceeds 10 Day Snarl			
Gross Taste or Odors			✓
Alternate Water Available			
Potential Contamination			
Is the site abandoned, active, or inactive?	Inactive		

No immediate removal required from this site.

Appendix D

SI Site Photographs

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 1 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

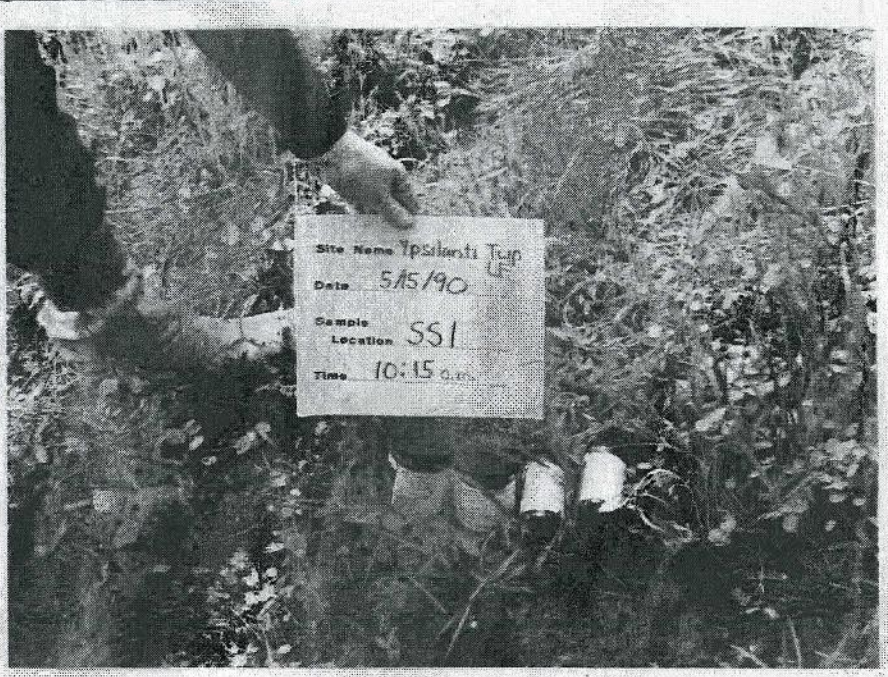
TIME: > 10:15

DIRECTION OF PHOTOGRAPH:
> north

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> C. Fairbanks

SAMPLE ID (if applicable):
> SS1 (BG)



DESCRIPTION: > Background soil sample; from yard across
> Spring Avenue north of site (1 ft depth)

DATE: > 5/15/90

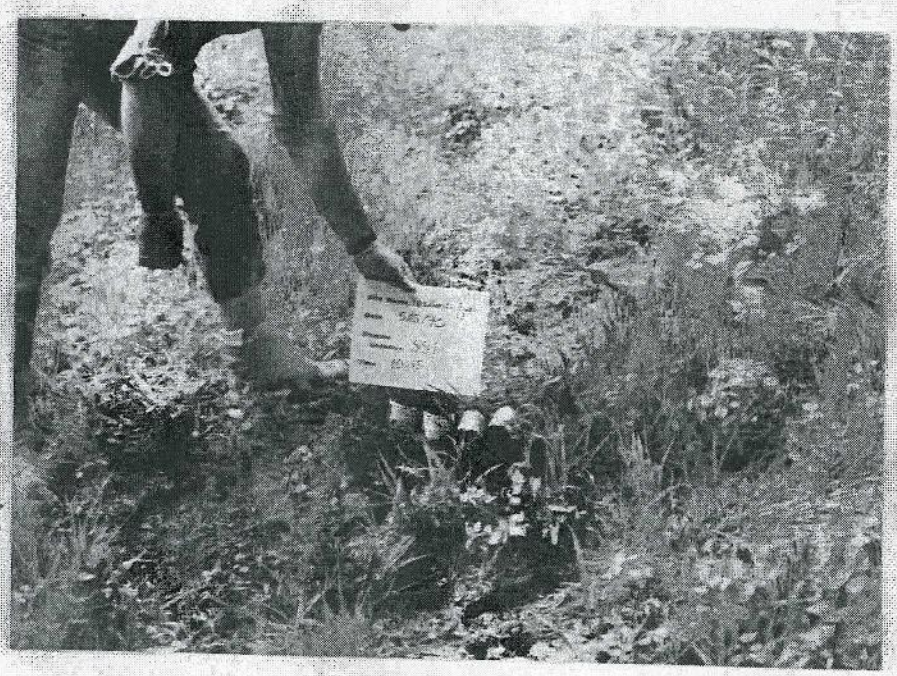
TIME: > 10:25

DIRECTION OF PHOTOGRAPH:
> north

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> C. Fairbanks

SAMPLE ID (if applicable):
> SS1



DESCRIPTION: > Same as above
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 2 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

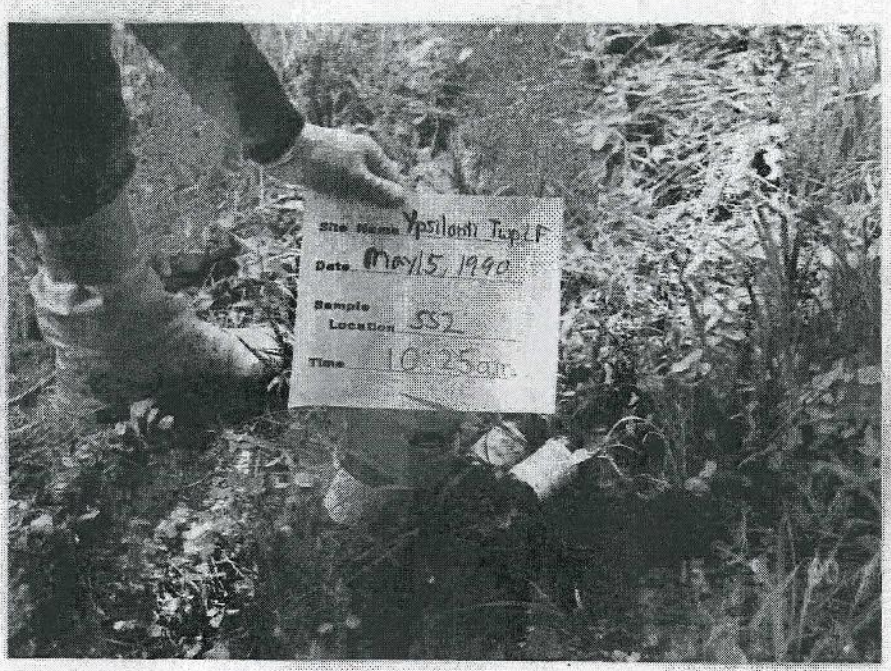
TIME: > 10:25

DIRECTION OF PHOTOGRAPH:
> north

WEATHER CONDITIONS:
> Cool, Cloudy
>

PHOTOGRAPHED BY:
> C. Fairbanks

SAMPLE ID (if applicable):
> SS2



DESCRIPTION: > Background sample at 4 foot depth from yard
> across Spring Avenue north of site

DATE: > 5/15/90

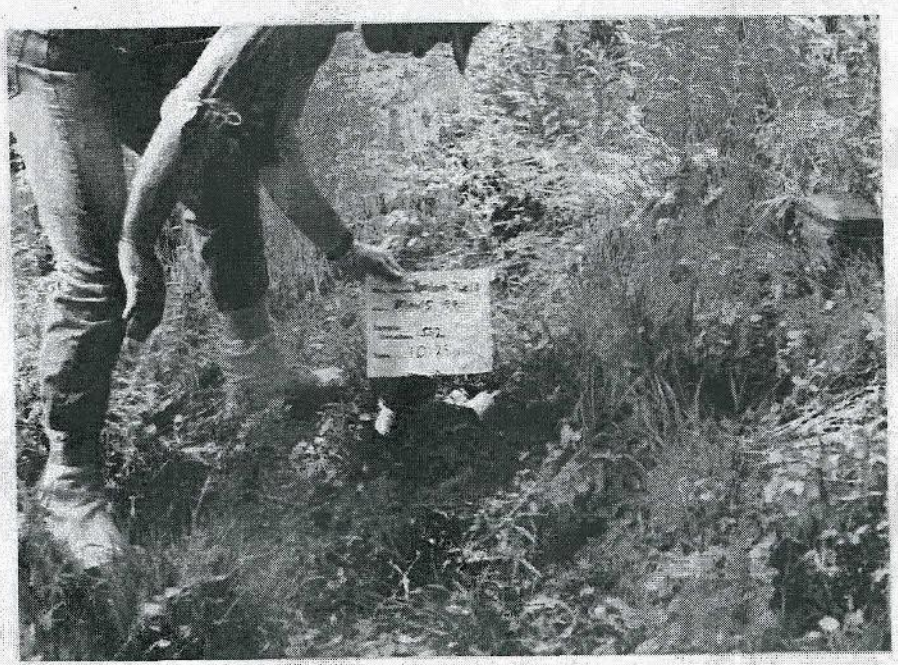
TIME: > 10:25

DIRECTION OF PHOTOGRAPH:
> north

WEATHER CONDITIONS:
> cool,
> Cloudy

PHOTOGRAPHED BY:
> C Fairbanks

SAMPLE ID (if applicable):
> SS2



DESCRIPTION: > Same as above
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 3 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

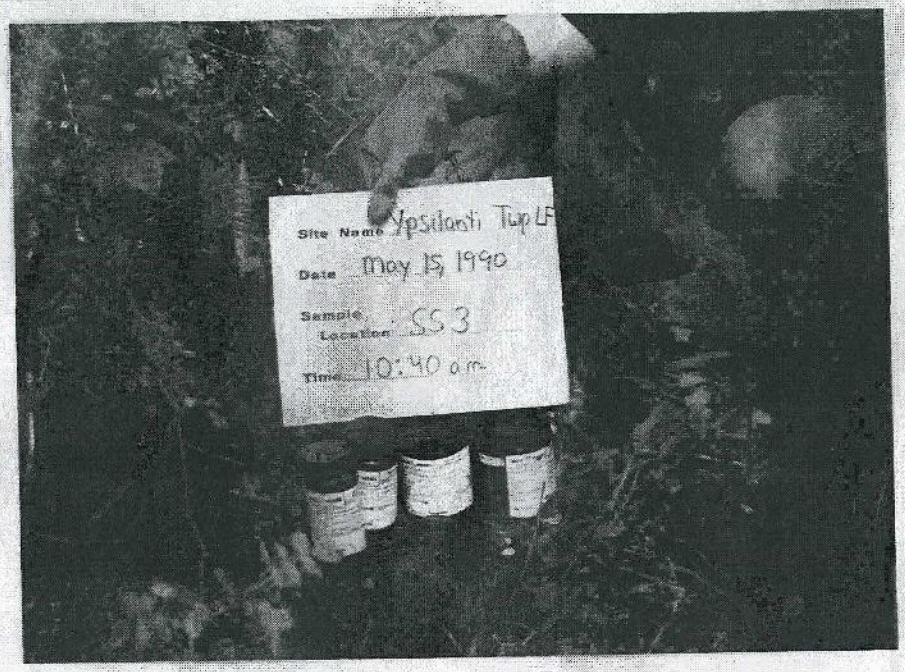
TIME: > 10:40

DIRECTION OF PHOTOGRAPH:
> east

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> C. Fairbanks

SAMPLE ID (if applicable):
> SS3



DESCRIPTION: > Sample collected at 1 foot depth along eastern
> edge of site, ~ 200 feet south of Spring Avenue
moist, marshy area.

DATE: > 5/15/90

TIME: > 10:40

DIRECTION OF PHOTOGRAPH:
> east

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> C. Fairbanks

SAMPLE ID (if applicable):
> SS3

DESCRIPTION: > Same as above
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 4 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

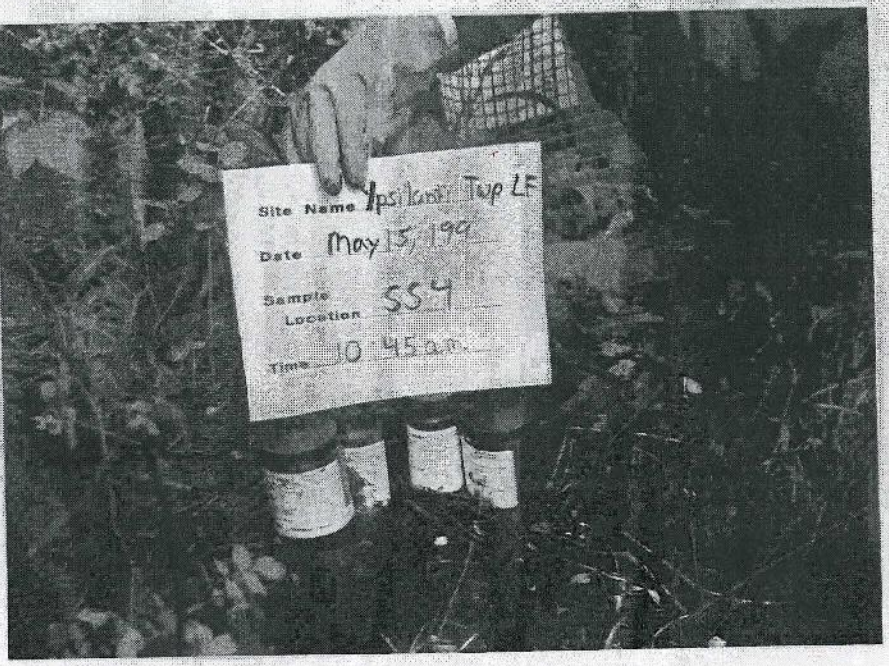
TIME: > 10:45

DIRECTION OF PHOTOGRAPH:
> east

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS 4



DESCRIPTION: > Soil sample collected at 4 foot depth along
> eastern edge of site ~200 feet south of Spring Avenue
in moist, marshy area

DATE: > 5/15/90

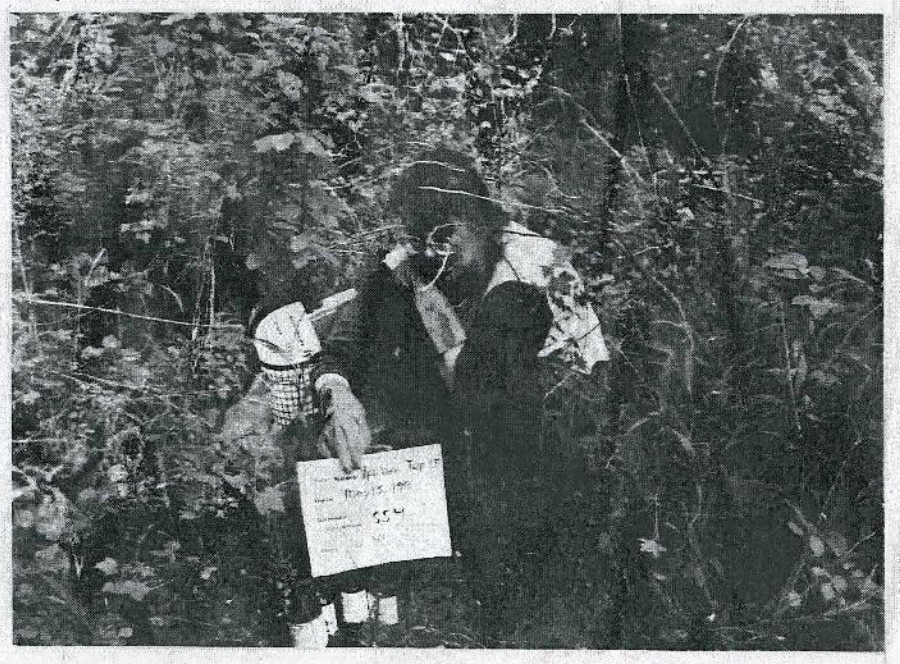
TIME: > 10:45

DIRECTION OF PHOTOGRAPH:
> east

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS 4



DESCRIPTION: > Same as above
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 5 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

TIME: > 1 30

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS5

DESCRIPTION: > Sample collected at 1 foot depth in heavily
> vegetative area in center of Landfill near water seepage area

DATE: > 5/15/90

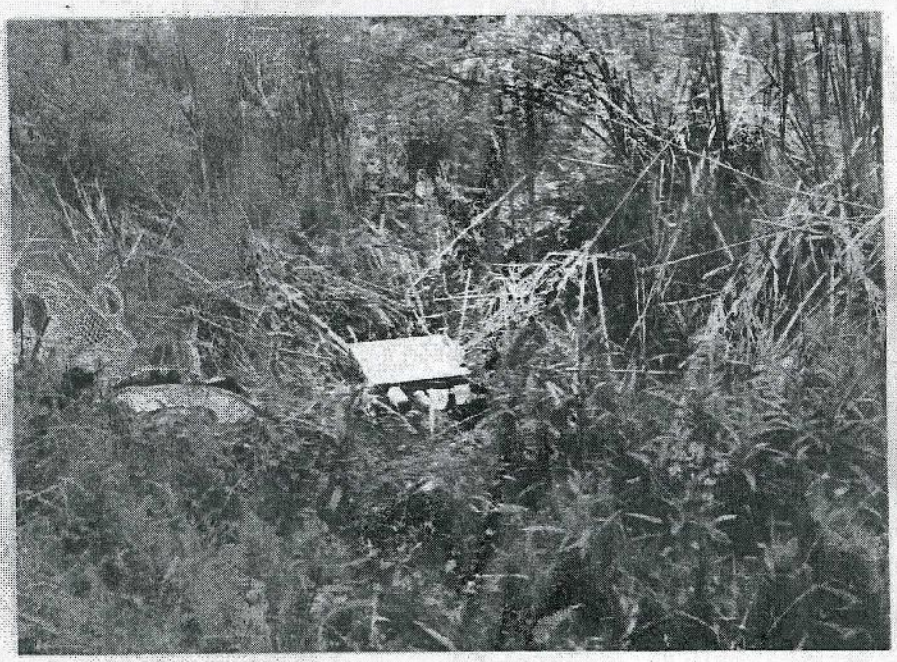
TIME: > 11:30

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS5



DESCRIPTION: > Same as above
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 6 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

TIME: > 11:30

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> Cool,
> cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS6

DESCRIPTION: > Same location as SS5 collected at 4 foot
> depth

DATE: > 5/15/90

TIME: > 11:30

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> Cool,
> cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS6

DESCRIPTION: > Same as above
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 7 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

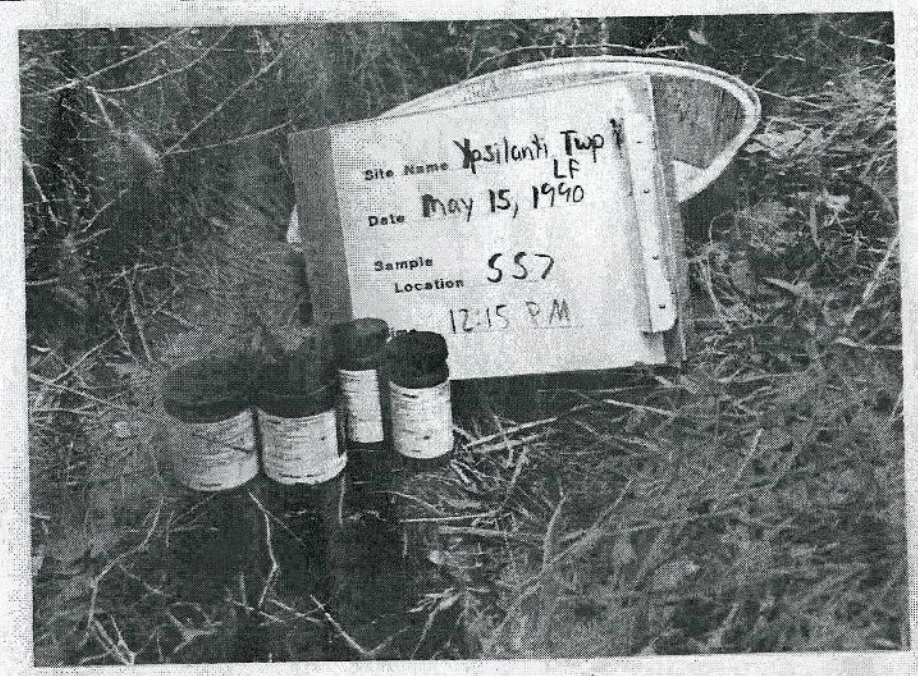
TIME: > 12:15

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> Cool,
> Cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS7



DESCRIPTION: > Sample collected at 1 foot depth South of
> drain in area of observed seepage, exposed refuse

DATE: > 5/15/90

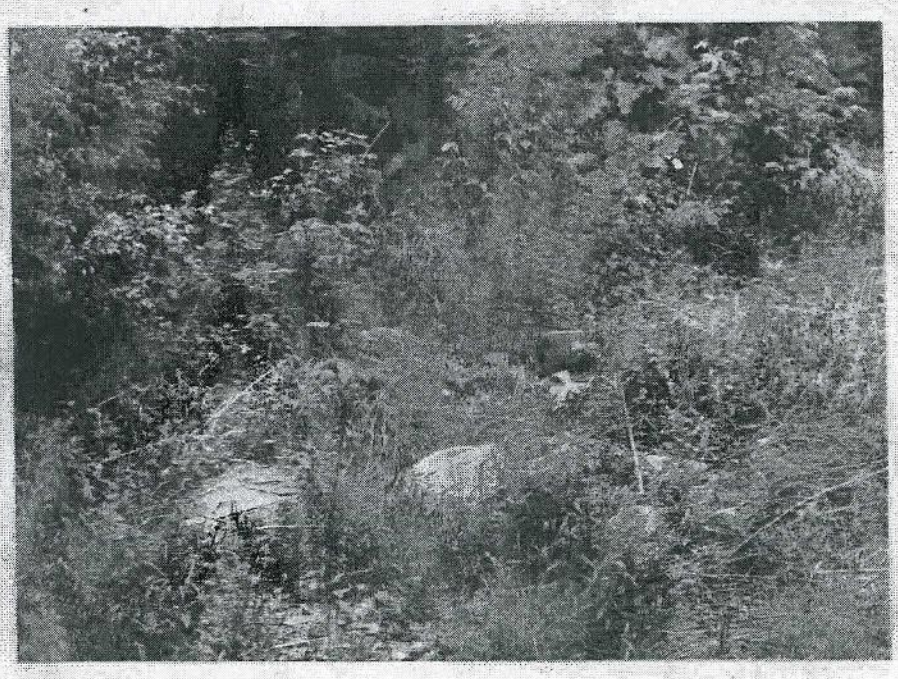
TIME: > 12:15

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> Cool,
> Cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS7



DESCRIPTION: > Same as above
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 8 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

TIME: > 12:30

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> Cool,
> cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS8

DESCRIPTION: > Sample collected in same area as SS7 at depth
> of four feet

DATE: > 5/15/90

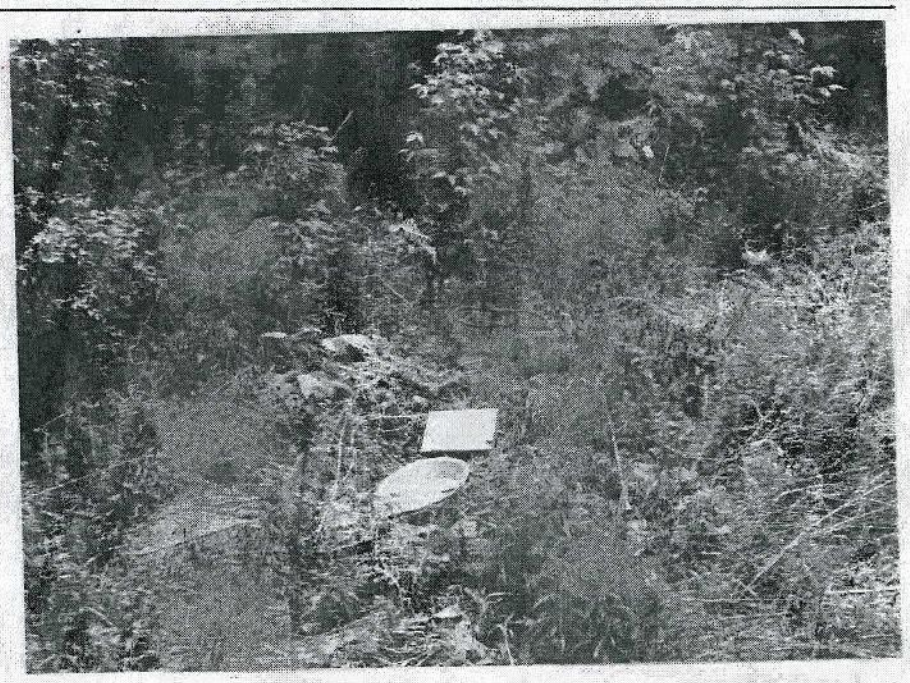
TIME: > 12:30

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> Cool,
> cloudy

PHOTOGRAPHED BY:
> Walczak

SAMPLE ID (if applicable):
> SS8



DESCRIPTION: > Same as above
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 9 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

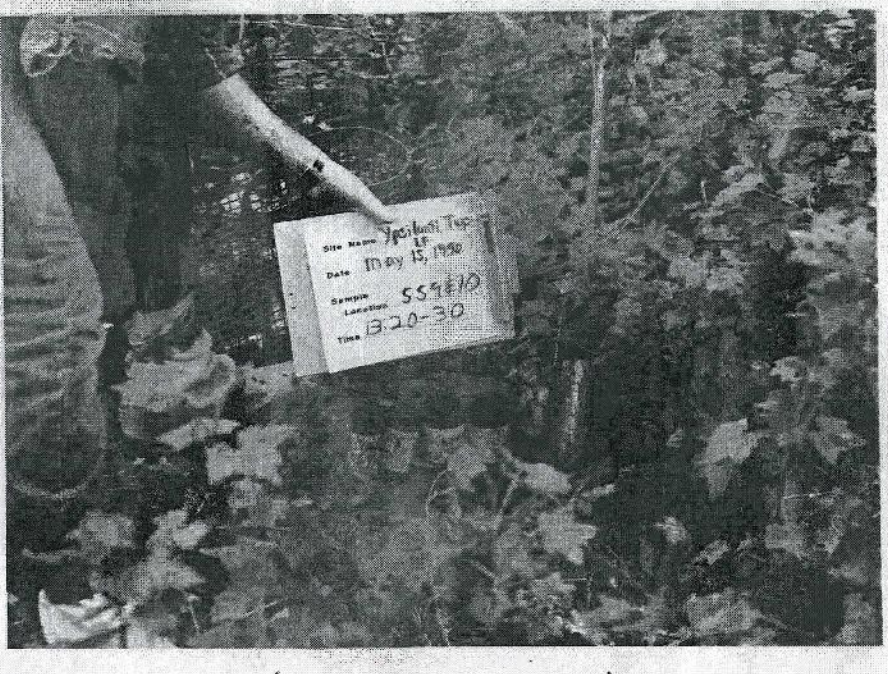
TIME: > 13:20 - 13:30

DIRECTION OF PHOTOGRAPH:
> west

WEATHER CONDITIONS:
> cool
> Cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
> SS9, 10



DESCRIPTION: > Samples collected (SS9 at 1 foot depth; SS10 at
> four foot depth) at center of landfill near area of seepage.

DATE: [redacted]

TIME: [redacted]

DIRECTION OF PHOTOGRAPH:
> [redacted]

WEATHER CONDITIONS:
> [redacted]
> [redacted]

PHOTOGRAPHED BY:
> [redacted]

SAMPLE ID (if applicable):
> [redacted]

DESCRIPTION: > [redacted]
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 10 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

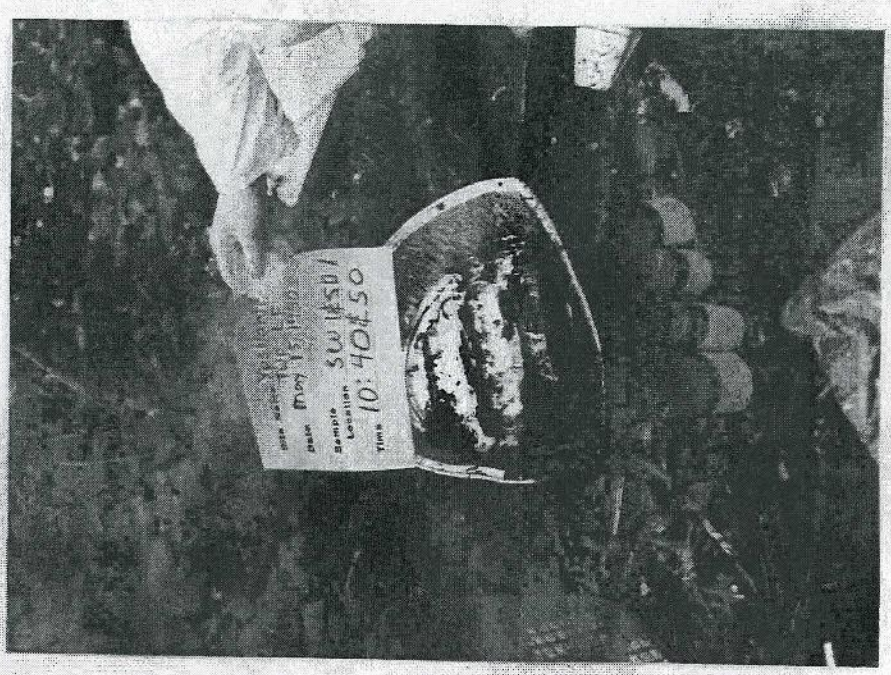
TIME: > 10:50

DIRECTION OF PHOTOGRAPH:
> east

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
> SD1,



DESCRIPTION: > Sediment one sample collected near culvert
> in drain east end of site

DATE: > 5/15/90

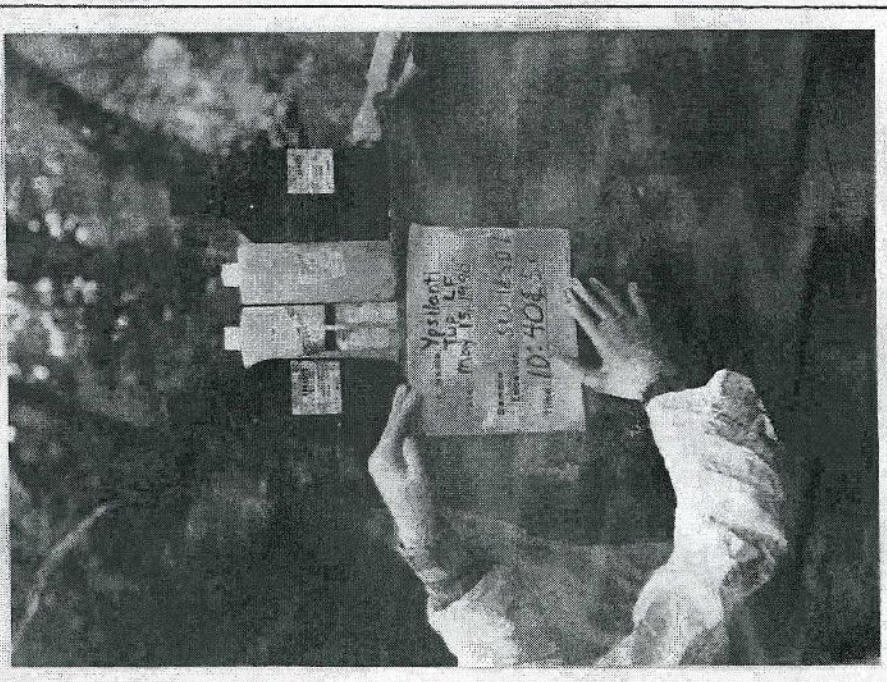
TIME: > 10:40

DIRECTION OF PHOTOGRAPH:
> east

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
> SW1



DESCRIPTION: > Same as above
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 11 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

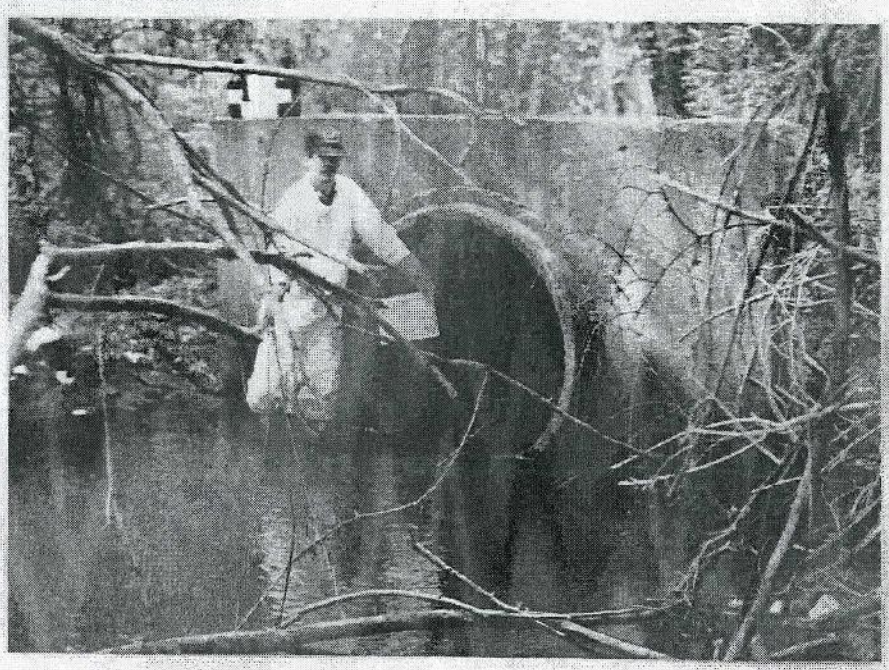
TIME: > 10:40

DIRECTION OF PHOTOGRAPH: > east

WEATHER CONDITIONS: > cool, > cloudy

PHOTOGRAPHED BY: > Carpenter

SAMPLE ID (if applicable): > SD1, SW1



DESCRIPTION: > Location from where SD1, SW1 collected

>

DATE: > 5/15/90

TIME: > 10:40

DIRECTION OF PHOTOGRAPH: > west

WEATHER CONDITIONS: > cool, > cloudy

PHOTOGRAPHED BY: > Carpenter

SAMPLE ID (if applicable): >

DESCRIPTION: > Looking west along drain toward area of > concret chunks

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 12 OF 18

U.S. EPA ID: MID980991067

DATE: > 5/15/90

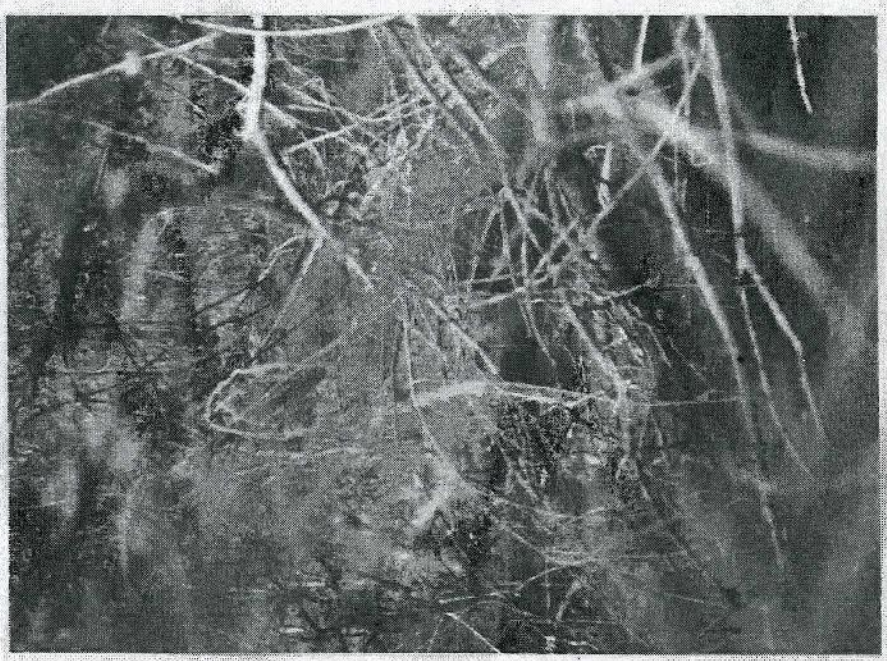
TIME: > ?

DIRECTION OF PHOTOGRAPH:
> West

WEATHER CONDITIONS:
> Cool,
> Cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
>



DESCRIPTION: > Refuse in drain
>

DATE: > 5/15/90

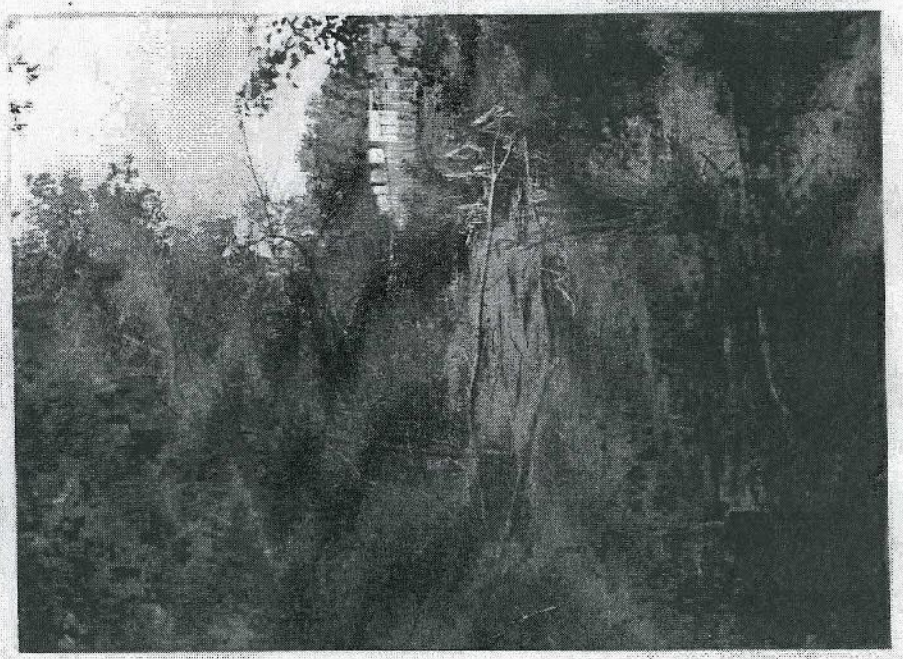
TIME: > ?

DIRECTION OF PHOTOGRAPH:
> north

WEATHER CONDITIONS:
> Cool,
> Cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
>



DESCRIPTION: > One fork of drain along eastern edge of Ford
> Plant east of landfill

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 13 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

TIME: > ?

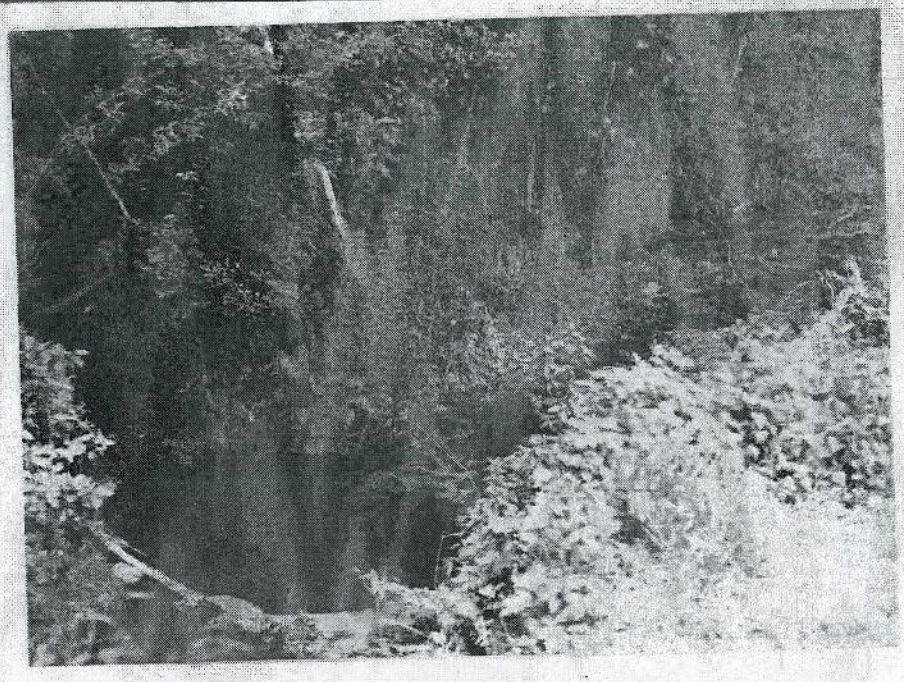
DIRECTION OF PHOTOGRAPH: > South

WEATHER CONDITIONS: > Cool

> Cloudy

PHOTOGRAPHED BY: > Carpenter

SAMPLE ID (if applicable): > —



DESCRIPTION: > Forle of drain in center of landfill site

>

DATE: > 5/15/90

TIME: > 11:25/11:35

DIRECTION OF PHOTOGRAPH: > east

WEATHER CONDITIONS: > Cool,

> Cloudy

PHOTOGRAPHED BY: > Carpenter

SAMPLE ID (if applicable): > SD3

DESCRIPTION: > SD3 colleded in drain branch near Ford motor

> Company boundry

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 14 OF 18

U.S. EPA ID: MI0980991057

DATE: > 5/15/90

TIME: > 11:35

DIRECTION OF PHOTOGRAPH: > east

WEATHER CONDITIONS: > Cool, > Cloudy

PHOTOGRAPHED BY: > Carpenter

SAMPLE ID (if applicable): > SW3

DESCRIPTION: > SW collected in same area as SD3

>

DATE: > 5/15/90

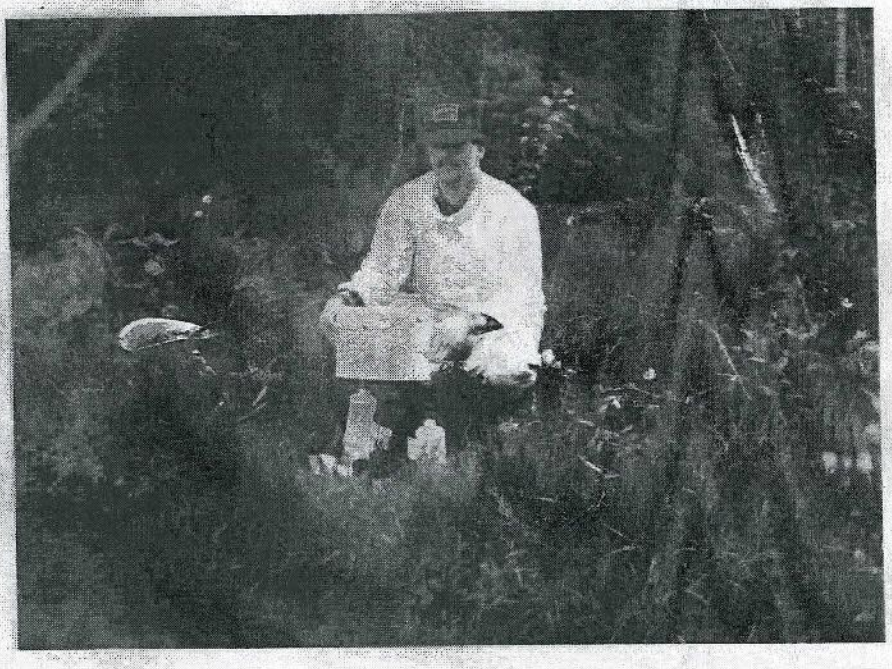
TIME: > 12:15, 12:25

DIRECTION OF PHOTOGRAPH: > South

WEATHER CONDITIONS: > Cool, > Cloudy

PHOTOGRAPHED BY: > Carpenter

SAMPLE ID (if applicable): > SD2, SW2



DESCRIPTION: > Sample collected from south branch of drain > near eastern boundry of site.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 15 OF 18

U.S. EPA ID: MID980991087

DATE: > 5/15/90

TIME: > ?

DIRECTION OF PHOTOGRAPH: > South

WEATHER CONDITIONS: > cool, > cloudy

PHOTOGRAPHED BY: > Carpenter

SAMPLE ID (if applicable): > none

DESCRIPTION: > Drain flowing south east to Huron River

>

DATE: > 5/15/90

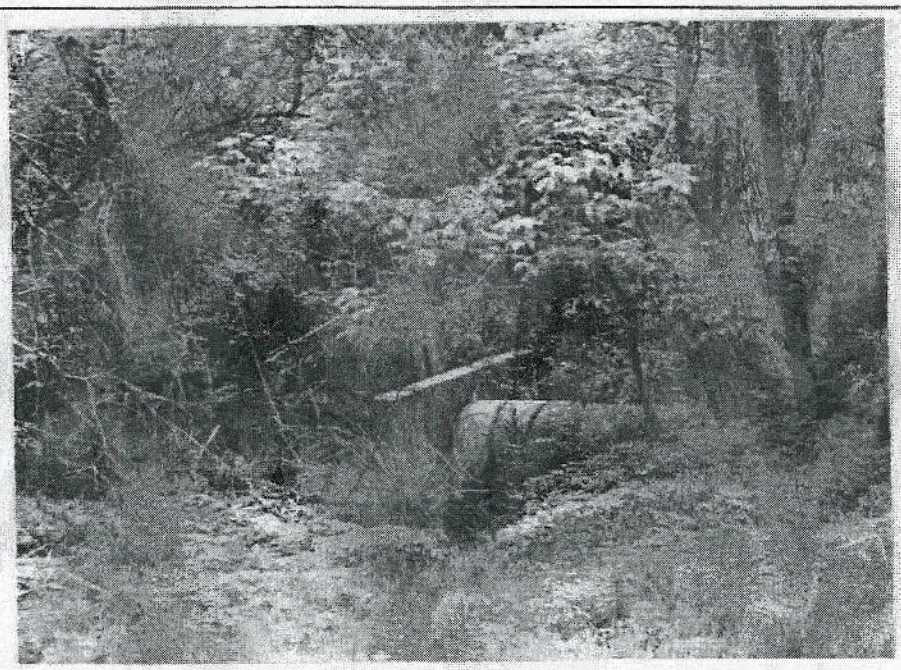
TIME: > ?

DIRECTION OF PHOTOGRAPH: > west

WEATHER CONDITIONS: > cool, > cloudy

PHOTOGRAPHED BY: > Carpenter

SAMPLE ID (if applicable): >



DESCRIPTION: > Culvert near SD1, SW1 sample collection

> point.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 16 OF 18

U.S. EPA ID: MID980991087

DATE: > 5/15/90

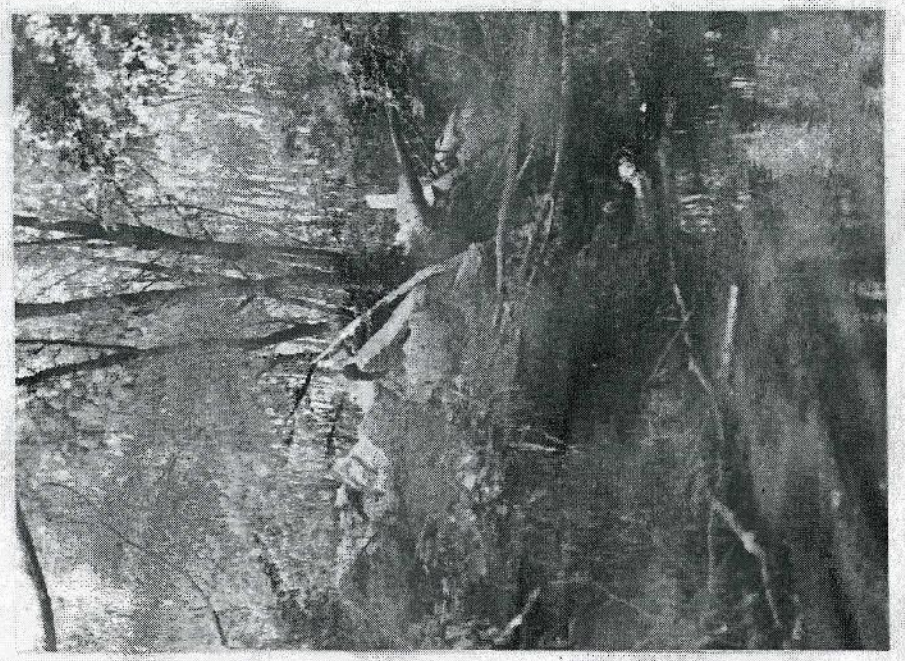
TIME: > ?

DIRECTION OF PHOTOGRAPH:
> north

WEATHER CONDITIONS:
> cool,
> cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
>



DESCRIPTION: > Scattered refuse, concret blocks partially
> covered by foilige.

DATE: > 5/15/90

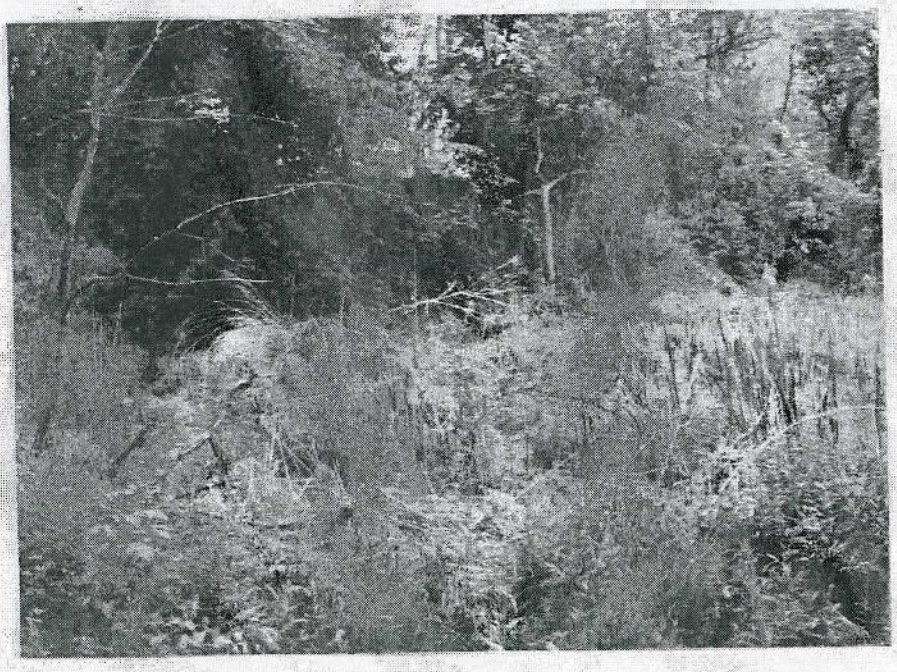
TIME: > ?

DIRECTION OF PHOTOGRAPH:
> West

WEATHER CONDITIONS:
> cool
> cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
>



DESCRIPTION: > Marshy wetland area near concret
> blocks.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 17 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

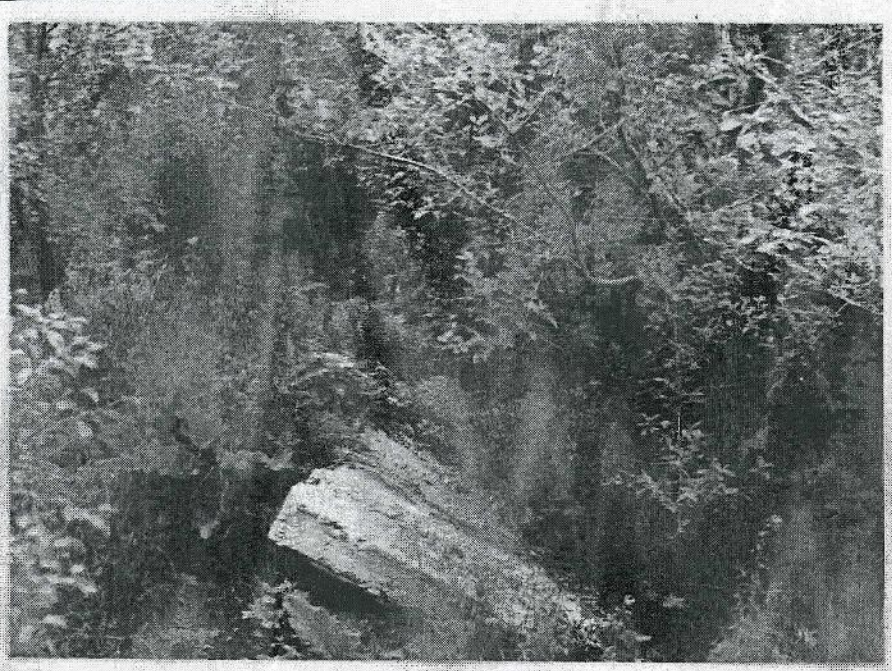
TIME: > ?

DIRECTION OF PHOTOGRAPH:
> West

WEATHER CONDITIONS:
> Cool,
> Cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
>



DESCRIPTION: > Concret blocks piled near drain, middle
> of Landfill site

DATE: > 5/15/90

TIME: > ?

DIRECTION OF PHOTOGRAPH:
> South

WEATHER CONDITIONS:
> Cool,
> Cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
>

DESCRIPTION: > Refuse exposed along side drain
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Ypsilanti Township Landfill PAGE 18 OF 18

U.S. EPA ID: MID 980991087

DATE: > 5/15/90

TIME: > ?

DIRECTION OF PHOTOGRAPH:
> east

WEATHER CONDITIONS:
> Cool,
> Cloudy

PHOTOGRAPHED BY:
> Carpenter

SAMPLE ID (if applicable):
>

DESCRIPTION: > Refuse exposed alongside drain
>

DATE: > [redacted]

TIME: > [redacted]

DIRECTION OF PHOTOGRAPH:
> [redacted]

WEATHER CONDITIONS:
> [redacted]
> [redacted]

PHOTOGRAPHED BY:
> [redacted]

SAMPLE ID (if applicable):
> [redacted]

DESCRIPTION: > [redacted]
> [redacted]

Appendix E

Chemical Analysis Data
of
SI Collected Samples

Ypsilanti Township Landfill Site

This report summerized the data validation efforts for 4 water samples with Organic Traffic Report number:

EZ421

EZ425 - EZ427

and 13 soil samples with OTR number:

EZ411 - EZ420

EZ422 - EZ424

for analysis of volatile organic and semivolatile organic compounds in this package.

1. Water Samples:

All 4 samples were analyzed, and samples showed clean chromatograms with no TCL or TIC compounds being identified in the volatile fraction. In the semivolatile fraction, there were two phthalates found at below detection limits, these are compounds of frequently encountered contaminants catagory in laboratory. 2-nitrophenol was found at 2J in the MS-MSD pair. Overall speaking, all 4 water samples were clean and had all the necessary QC data well documented. Data are acceptable.

2. Soil Samples:

13 samples were analyzed for volatile organics. Data were complete and acceptable. For semivolatiles, all QC data were good with the exception of the following:

- For sample EZ414, the #6 Internal Standard Area was outside of the control limit. Fortuntely, there were no compounds found in this fraction, therefore no corrective action was required.
- On p.1791, the Continuing Calibration Standard for the 12 hour period was labeled as VSTD050, this should be labeled as SSTD050 instead, as not to be confused with the volatile standards normally used.
- For samples EZ411 and EZ418, Form 1F, the TIC Data Sheet were not included in the package.
- Data presented in Form 1F were supposed to be identical to the ENSECO TIC REPORT, but they were not! There were great variations in all the retention time, in fact, none of the TIC in all the 13 samples had the same RT, would like to known how the actual transcriptions were done? For example, compare p.1288 (Form1F) to p.1342 (ENSECO report).
- ENSECO-CAL Quantitation Summary sheet should provide RT information like all raw data sheet would!

Vei-Shi Ho

Vei-Shi Ho
GC/MS Specialist
August, 1990

Water

Sample ID :	EZ421	425	426	427
Semivolatile Organics		ug/l (ppb)		
Bis(2-Ethyl Hexyl) phthalate	9 J	8 J		
Diethyl phthalate	3 J			
semivolatile (TICs)	~~~	None	~~~	

Soil

Sample ID:	EZ411	412	413	414
Volatile Organics	µg/Kg (ppb)			
Methylene chloride	8	7 J	5 J	4 J
Acetone	26 B	23 B	25 B	9 B J
Volatile (TICs)	None			

Soil

Sample ID:	EZ415	416	417	418
Volatile Organics	µg/Kg (PPb)			
Methylene Chloride	21	17 J	11	2J
Acetone	50 B	85 B	2BJ	
Volatile (TICs)				
Unknown				38 J
Decane, 4-methyl				43 J
Butyl cyclohexane				66 J
Unknown				24 J
1-ethyl-1-methyl Cyclohexane				57 J
Unknown Alkane				33 J
Unknown Alkane				33 J
Unknown				50 J
Naphthalene, Decahydro- 2-methyl				24 J
6-methyl, Dodecane				75 J

Soil

Sample ID:	E7419	420	422	423
Volatile Organics	ug / kg (ppb)			
methylene Chloride	6 J	10	3 J	6 J
Acetone	11 BJ	38 B	11 BJ	12 BJ
Volatile (TICs)				
Unknown	36 J			
Bicyclo (2,2,1) Heptane, 2,2-D:			92 J	

Soil

Sample ID:	EZ424				
Volatile Organics			ug/kg (ppb)		
Methylene Chloride	6J				
Acetone	23 B				
Volatile (TICs)	None				

Soil

Sample ID:	EZ411	412	413	414
Semi-volatile	ug/Kg (ppb)			
Diethylphthalate	120 J	330 J		
phenanthrene	240 J	59 J	50 J	
Anthracene	62 J			
Fluoranthene	650	130 J	110 J	
pyrene	460 J	100 J	84 J	
Benzo(a) Anthracene	290 J	57 J	51 J	
Chrysene	370 J	67 J	64 J	
Benzo(b) Fluoranthene	430 J	69 J	60 J	
Benzo(K) Fluoranthene	320 J		60 J	
Benzo(a) pyrene	300 J		47 J	
Indeno(1,2,3-cd)pyrene	290 J		73 J	
Dibenzo(a,h) Anthracene	65 J		420 J	
Benzo(g,h,i) perylene	260 J		84 J	
Semi-Volatile (TICs)				
	NO Data Sheet	next page.7	next page.7	next page.8

Soil

Sample ID:	EZ412		EZ413	
Semivolatile (TICs)	ug/kg (ppb)			
UNKNOWN OXYGENATED COMPOUND	730	BJ		
5-HEXEN-2-ONE, 5-METHYL- OR	610	J		
UNKNOWN OXYGENATED COMPOUND	580	J		
PROPANEDIOIC ACID, PHENYL- O	770	J		
UNKNOWN OXYGENATED COMPOUND	550	J		
HEXADECANOIC ACID OR ISOMER	600	J		
SULFUR, MOL. (S8)	8400	J		
UNKNOWN	1200	J		
UNKNOWN	2600	J		
1-DOCOSANOL OR ISOMER	990	J		
UNKNOWN	980	J		
1-TETRACOSANOL OR ISOMER	3600	J		
UNKNOWN	900	J		
1-HEXACOSANOL OR ISOMER	3100	J		
UNKNOWN ALKANE	1300	J		
.NKNOWN ALCOHOL	1500	J		
UNKNOWN	970	J		
UNKNOWN	990	J		
UNKNOWN	1300	J		
UNKNOWN	910	J		
UNKNOWN	3200	J		
UNKNOWN	2100	J		
.BETA.-AMYRIN OR ISOMER	1200	J		
UNKNOWN			610	BJ
UNKNOWN			500	J
UNKNOWN KETONE			420	J
UNKNOWN KETONE			260	J
UNKNOWN			460	J
UNKNOWN			330	J
UNKNOWN ALKANE			340	J
UNKNOWN			500	J
UNKNOWN			430	J
UNKNOWN ALKANE			230	J
HEXADECANOIC ACID			340	J
SULFUR, MOL. (S8)			23000	J
UNKNOWN ALIPHATIC ALCOHOL			720	J
UNKNOWN			500	J
UNKNOWN			1600	J
UNKNOWN			240	J
UNKNOWN ALIPHATIC ALCOHOL			2200	J
IEDELIN			6100	J
UNKNOWN			490	J
UNKNOWN ALIPHATIC ALCOHOL			1400	J
UNKNOWN ALKANE			1400	J
UNKNOWN POLYCYCLIC HYDROCARB			590	J
UNKNOWN POLYCYCLIC HYDROCARB			2100	J

Soil

Sample ID: EZ414

Semivolatile (TICs)	ug/Kg (ppb)	
UNKNOWN OXYGENATED COMPOUND	350	BJ
UNKNOWN	200	J
UNKNOWN ALKANE	360	J
SULFUR, MOL. (S8)	23000	J
UNKNOWN SUB'D ALKANE	240	J
UNKNOWN SUBT'D ALKANE	830	J
UNKNOWN SUBT'D ALKANE	1000	J
UNKNOWN SUBT'D ALKANE	890	J
UNKNOWN	850	J

Soil

Sample ID:	EZ 415	416	417	418
Semi-Volatile		ug/Kg (ppb)		
Naphthalene			140 J	
Phenanthrene	450 J	470 J	2100	240 J
2-methylnaphthalene			90 J	
Fluoranthene	1200 J	1300 J	3900	
Acenaphthylene			210 J	
Pyrene	860 J	940 J	2800	160 J
Acenaphthene			100 J	
Benzo(a) Anthracene	510 J	500 J	2100	
Dibenzofuran			170 J	
Chrysene	650 J	580 J	1800	
Fluorene			240 J	
Benzo(b) Fluoranthene	610 J	720 J	2500	
Anthracene			510	
Benzo(k) Fluoranthene	600 J	490 J	1600	
Bis(2ethylhexyl)phthalate				1000 J
Benzo(a) pyrene	440 J	470 J	1700	
Indeno(1,2,3-cd) pyrene	640 J	410 J	1600	
Dibenzo(a,h) Anthracene				
Benzo(g,h,i) perylene	490 J	370 J	1300	

Soil

Sample ID:	EZ415		416		417	418
Semi-Volatile (TICs)	ug/Kg (ppb)					
UNKNOWN OXYGENATED COMPOUND	2300	BJ				
UNKNOWN KETONE	2100	J				
UNKNOWN	2200	J				
UNKNOWN SUBT'D ALKANE	2300	J				
UNKNOWN	1900	J				
HEXADECANOIC ACID	4100	J				
UNKNOWN	1800	J				
SULFUR, MOL. (S8)	2900	J				
UNKNOWN	2500	J				
UNKNOWN	1700	J				
UNKNOWN SUBT'D ALKANE	3100	J				
UNKNOWN SUBT'D ALKANE	9400	J				
UNKNOWN	3200	J				
UNKNOWN SUBT'D ALKANE	6900	J				
UNKNOWN	2500	J				
UNKNOWN	4500	J				
UNKNOWN ALKANE	11000	J				
UNKNOWN POLYCYCLIC HYDROCARB	11000	J				
UNKNOWN	5900	J				
UNKNOWN	5300	J				
UNKNOWN POLYCYCLIC HYDROCARB	4900	J				
UNKNOWN	5000	J				
UNKNOWN			2000	BJ		no Data sheet
UNKNOWN			1700	J		
UNKNOWN KETONE			1700	J		
UNKNOWN SUBT'D ALKANE			1900	J		
HEXADECANOIC ACID			2600	J		
SULFUR, MOL. (S8)			2400	J		
UNKNOWN			2100	J		
UNKNOWN			1700	J		
UNKNOWN			1700	J		
UNKNOWN ALIPHATIC ALCOHOL			3300	J		
UNKNOWN ALIPHATIC ALCOHOL			5300	J		
UNKNOWN POLYCYCLIC HYDROCARB			3400	J		
UNKNOWN ALKANE			5100	J		
UNKNOWN			1600	J		
UNKNOWN			2900	J		
UNKNOWN UNKNOWN TOCOPHEROL			2500	J		
UNKNOWN SUBT'D ALKANE			6000	J		
UNKNOWN			1800	J		
UNKNOWN			2300	J		
UNKNOWN POLYCYCLIC HYDROCARB			9500	J		
UNKNOWN			4900	J		
UNKNOWN			3500	J		
UNKNOWN POLYCYCLIC HYDROCARB			6900	J		
UNKNOWN POLYCYCLIC HYDROCARB			6000	J		

next page. 11

Soil

Sample ID: EZ417

Semi-volatile (TICs) ug/kg (ppb)

UNKNOWN	620	BJ
UNKNOWN KETONE	920	J
CYCLOHEXENE, 4-METHYLENE-1-(	250	J
UNKNOWN	730	J
UNKNOWN SUBT'D ALKANE	420	J
9-HEXADECENOIC ACID	2200	J
UNKNOWN UNSAT'D ALIPHATIC HY	570	J
HEXADECANOIC ACID	1400	J
SULFUR, MOL. (S8)	2900	J
BENZO[B]NAPHTHO[2,3-D]FURAN	510	J
UNKNOWN CARBONL-SUBT'D ALIPH	1300	J
11H-BENZO[A]FLUORENE OR ISOM	750	J
11H-BENZO[A]FLUORENE OR ISOM	530	J
UNKNOWN PAH	300	J
UNKNOWN PAH	670	J
UNKNOWN PAH	270	J
UNKNOWN PAH	410	J
NKNOWN SUBT'D ALKANE	310	J
ENZO[J]FLUORANTHENE OR ISOM	410	J
BENZO[J]FLUORANTHENE OR ISOM	1100	J
UNKNOWN SUBT'D ALKANE	700	J
UNKNOWN ALKANE	540	J
UNKNOWN	640	J

Soil

Sample ID:	EZ 419		420		422		422DL	
Semi-Volatile	µg/Kg (ppb)							
4-methyl phenol					280	J	210	DJ
Naphthalene			77	J	130	J	93	DJ
Benzoic Acid					420	J		
2-methyl naphthalene					98	J		
Dimethyl phthalate					63	J		
Acenaphthylene			72	J	230	J	260	DJ
Ace naphthene					480		380	DJ
Dibenzofuran			96	J	270	J	180	DJ
Di-n-butyl phthalate					240	J	240	DJ
Fluorene	62	J	250	J	500		400	D
Benzyl Butyl phthalate	62	J	300	J	430	J	410	DJ
phenanthrene	230	J	340	J	5200		4300	D
Anthracene	69	J	150	J	1100		1100	D
Bis(2-ethylhexyl)phthal					1300		1600	D
Fluoranthene	400	J	940				12000	D
Pyrene	320	J	720		8100	E	8400	D
Benzo(a) Anthracene	160	J	330	J	5200		4800	D
chrysene	130	J	330	J	4400		4400	D
Benzo(b) Fluoranthene	130	J	370	J			6200	D
(K) "	120	J	220	J	9700	E	2200	D
(a) Pyrene	120	J	240	J	4000		4000	D
Indeno(1,2,3-cd) Pyrene	87	J			3400		2900	D
Dibenzo(a,h) Anthracene					1200		530	D

Soil

Sample ID:	EZ 419		420		422	422DL
Semi-volatile (TICs)	ug/Kg (ppb)					
UNKNOWN OXYGENATED COMPOUND	720	BJ				
UNKNOWN	620	J				
UNKNOWN KETONE	550	J				
UNKNOWN ALKANE	500	J				
UNKNOWN ALKANE	420	J				
UNKNOWN	660	J				
HEXADECANOIC ACID OR ISOMER	760	J				
SULFUR, MOL. (S8)	14000	J				
UNKNOWN	980	J				
UNKNOWN	1500	J				
UNKNOWN ALKANE	360	J				
UNKNOWN ALKANE	750	J				
1-DOCOSANOL OR ISOMER	440	J				
PENTACOSANE OR ISOMER	440	J				
UNKNOWN KETONE	730	J				
UNKNOWN	510	J				
UNKNOWN ALKANE	1500	J				
UNKNOWN ALKANE	1300	J				
UNKNOWN ALKANE	600	J				
UNKNOWN ALCOHOL	1500	J				
UNKNOWN	1200	J				
UNKNOWN POLYCYCLIC HYDROCARB	1500	J				
UNKNOWN OXYGENATED COMPOUND			1100	BJ		
UNKNOWN ALKANE			1100	J		
HEXADECANE, 2,6,10-TRIME OR			1200	J		
UNKNOWN ALKANE			770	J		
UNKNOWN ALKANE			1600	J		
HEXADECANOIC ACID OR ISOMER			1700	J		
SULFUR, MOL. (S8)			65000	J		
UNKNOWN ALKANE			880	J		
UNKNOWN			920	J		
UNKNOWN ALKANE			750	J		
UNKNOWN ALKANE			830	J		
UNKNOWN ALKANE			900	J		
UNKNOWN KETONE			810	J		
UNKNOWN ALKANE			1100	J		
UNKNOWN ALCOHOL OR ALKENE			2700	J		
UNKNOWN KETONE			1000	J		
UNKNOWN ALKANE			850	J		
UNKNOWN			3300	J		
UNKNOWN			1100	J		
UNKNOWN ALKANE			1900	J		
UNKNOWN ALCOHOL OR ALKENE			1800	J		
UNKNOWN			2200	J		

next page.14

next page.14

Soil

Sample ID:	EZ422		EZ422DL	
Semi-Volatile (TICs)	ug/Kg (ppb)			
SULFUR, MOL. (S8)	260000	J		
UNKNOWN	4000	J		
UNKNOWN	7500	J		
11H-BENZO[A]FLUORENE OR ISOM	4900	J		
11H-BENZO[A]FLUORENE OR ISOM	4800	J		
UNKNOWN	4200	J		
UNKNOWN ALKANE	9100	J		
UNKNOWN ALKANE	3900	J		
UNKNOWN ALKANE	14000	J		
UNKNOWN ALKANE	4800	J		
BENZ[E]ACEPHENANTHRYLENE OR	8300	J		
UNKNOWN ALKANE	14000	J		
UNKNOWN	4700	J		
UNKNOWN	7100	J		
UNKNOWN ALKANE	10000	J		
UNKNOWN ALKANE	4400	J		
CHOLESTEROL OR ISOMER	3800	J		
UNKNOWN	7100	J		
4H-CYCLOPENTA[DEF]PHENANTHRE			1600	J
UNKNOWN			1500	J
HEXADECANOIC ACID			3000	J
SULFUR, MOL. (S8)			30000	J
OCTADECANOIC ACID			1900	J
11H-BENZO[A]FLUORENE OR ISOM			1800	J
11H-BENZO[A]FLUORENE OR ISOM			2000	J
UNKNOWN PAH			1500	J
UNKNOWN ALKANE			3200	J
UNKNOWN			1900	J
UNKNOWN ALKANE			1400	J
UNKNOWN ALKANE			4400	J
BENZO[J]FLUORANTHENE OR ISOM			2000	J
UNKNOWN ALKANE			8200	J
UNKNOWN			1800	J
UNKNOWN POLYCYCLIC HYDROCARB			2400	J
UNKNOWN ESTER			1800	J
UNKNOWN ALKANE			5100	J
UNKNOWN POLYCYCLIC HYDROCARB			2500	J
UNKNOWN			3900	J
UNKNOWN			1400	J
UNKNOWN			2200	J

Soil

Sample ID:	EZ423		424			
Semi-Volatile			ug/Kg (ppb)			
4-methyl phenol			500	J		
phenanthracene	9400	J	7100			
Benzoic Acid			680	J		
Anthracene	2700	J	1700	J		
Naphthalene			490	J		
Fluoranthene	16000		13000			
Acenaphthylene			1500	J		
Pyrene	12000		12000			
Dibenzofuran			490	J		
Benzo(a) Anthracene	6400	J	6100			
Flurene			830	J		
chrysene	7500	J	6900			
Bis(2-ethylhexyl)phth.	1900	J				
Benzo(b) Fluoranthene	7800	J	7800			
(K) "	5800	J	7200			
(a) pyrene	5600	J	6800			
Indeno(1,2,3-c,d)pyrene	5400	J	6400			
Dibenzo(a,h) Anthracene			1100	J		
Benzo(g,h,i) perylene	4800	J	5900			

Soil

Sample ID:	EZ423		424			
Semi-Volatile (TICs)	ug/Kg (ppb)					
HEXADECANOIC ACID OR ISOMER	6500	J				
SULFUR, MOL. (S8)	100000	J				
UNKNOWN	15000	J				
UNKNOWN ALKANE	18000	J				
UNKNOWN	40000	J				
UNKNOWN	13000	J				
BENZO[J]FLUORANTHENE OR ISOM	8500	J				
UNKNOWN ALKANE	14000	J				
URS-12-EN-24-OIC ACID, OR IS	110000	J				
UNKNOWN	49000	J				
UNKNOWN	130000	J				
UNKNOWN	27000	J				
UNKNOWN ALKANE	13000	J				
UNKNOWN	14000	J				
HEXADECENOIC ACID OR ISOMER			7500	J		
SULFUR, MOL. (S8)			130000	J		
BENZO [B] NAPTHO [2,3-D] FUR			3300	J		
UNKNOWN			3800	J		
11H-BENZO[A]FLUORENE OR ISOM			3500	J		
BENZO[C]PHENANTHRENE OR ISOM			4000	J		
UNKNOWN ALKANE			8800	J		
TRIPHENYLENE, 2-METHY OR ISO			3900	J		
UNKNOWN ALKANE			3100	J		
UNKNOWN			3800	J		
UNKNOWN ALKANE			7800	J		
BENZO[J]FLUORANTHENE OR ISOM			3500	J		
BENZO[J]FLUORANTHENE OR ISOM			6200	J		
UNKNOWN ALKANE			6000	J		
UNKNOWN			3400	J		
UNKNOWN ALKANE			4500	J		
UNKNOWN ALKANE			4400	J		
VITAMIN E ACETATE (VAN)			14000	J		
UNKNOWN			9100	J		
UNKNOWN			7900	J		
UNKNOWN			11000	J		

PESTICIDE REVIEW

YPSILANTI TOWNSHIP LANDFILL PESTICIDE REVIEW

Soil Samples

The soil samples from Ypsilanti Township Landfill Site were analyzed over two separate 72 hour periods. The first set was analyzed from 5/28/90 to 5/31/90. It contained the following 12 samples: EZ411/52904-1, EZ411MS/52904-1MS, EZ411MSD/52904-1MSD, EZ412/52904-2, EZ414/52904-4, EZ415/52904-5, EZ416/52904-6, PBLK02/52904-MB02, EZ418/52904-8, EZ419/52904-9, EZ417/52904-7, and EZ424/52904-14 in that order.

The second set was analyzed from 6/11/90 to 6/12/90. It contained the following 6 samples: EZ413/52904-3, EZ418DL/52904-8DL, EZ419DL/52904-9DL, EZ420/52904-10, EZ422/52904-12, and EZ423/52904-13 in that order.

The overall data is good with the following exceptions;

1. Sample EZ424/52904-14 has a reported value of 120 ug/kg of delta-BHC. I do not believe this compound is present in the sample at all. First, the retention time of the reference compound DBCB is at 22.48 minutes, (it is at 22.45 minutes in the standard) indicating no real significant retention time shift in this sample. The retention time for the quantitation (12:47 minutes) and

confirmation (14:66 minutes) for delta-BHC in the sample is barely within the retention time window (quantitation 12:29-12:47 minutes and confirmation 14:45-14:67 minutes) established by the standard for delta-BHC. Second, the difference in area response between the quantitation vs. the confirmation column for the sample indicates a response 6.2x greater for the quantitation over the confirmation column in the sample. In the standard the difference between the quantitation vs. confirmation column is only 2.5x. Visual observation of the G.C. chromatograms indicate individual peaks for the identified false positive delta-BHC in both columns.

2. The Matrix Spike (E2411MS/52904-1MS) has a reported value for Aldrin at 24 ug/kg. This value in incorrect. Review of the data indicates that the percent moisture (31%) was not taken into consideration when this value was reported. When the percent moisture is taken into consideration the true value for Aldrin is 36 ug/kg yielding a 93% recovery, (instead of 63%) with a relative percent difference of 7%, (instead of 32%) for the matrix spikes recoveries, (form 3F p1957). All other reported values are correct.

3. In sample E2417/52904-7 the reported value for surrogate recovery (DBCD) is 97%. However upon evaluation of the raw data, (p2001), there is not a single area count within the retention time window of DBCD that will calculate out to be 97%. There are only

two peaks within the DBCD window, peaks #7a and #7b. Peak #7b had a retention time (22.466) closer to DBCD (22.46) in the standard. Calculation of DBCD for this particular peak yielded a recovery of 138% which is within established Q.C. guidelines. Visual identification of the G.C. chromatograph indicates that there maybe only one peak in this region but because the peaks are off scale it is difficult to tell if this is the case.

4. The standard run on 5/21/90 at 0013 had two compounds, (4,4'DDT-24% and methoxychlor-19.6%) with % deviations greater than the 15% limit established for a quantitation column. However this is of no consequence as no further samples were analyzed after this standard.

Water Samples

The water samples from Ypsilanti Township Landfill Site were analyzed over two separate 72 hour periods. The first set was analyzed from 5/21/90 to 5/24/90 and it contained the following samples: PBLK01/52904-MB01, EZ421/52904-11, EZ421MS/52904-11MS, EZ421MSD/52904-11MSD, EZ425/52904-15, and EZ426/52904-16.

The second set was analyzed from 5/24/90 to 5/25/90 and it only contained sample EZ427/52904-17. The raw data for the confirmation column in the blank PBLK01/52904-MB01 was missing.

The confirmation column on the set run 5/21/90 to 5/24/90 had an elevated baseline. It is doubtful that any confirmation at or near the detection limit could have been accomplished. This is not significant since no compounds were positively identified in the quantitation column.

Otherwise the data and all related Q.C. are satisfactory.

Fernando Calera

Fernando Calera

Pesticide Reviewer

Water Samples

	values in ug/L (ppb)			
	EZ421	EZ425	EZ426	EZ427
	52904-11	52904-15	52904-16	52904-17

Soil Samples

	values in ug/Kg (ppb)			
	EZ 415 52904-5	EZ 416 52904-6	EZ 417 52904-7	EZ 418 52904-8
4,4'-DDE			38J	

Soil Samples

	values in ug/Kg (ppb)			
	EZ424 52904-14			
delta BHC	120J *			
* See data review				

SUMMARY OF VALIDATED DATA (POSITIVE INORGANIC HITS)

LAB NAME:	Associated Labs
CONTRACT NUMBER:	68-D9-0079
CASE NUMBER:	14105
PROJECT DESCRIPTION:	Ypsilanti Township Landfill

Sample Collection Information					
Station Location:	183051	183055	183059	183063	183067
Date Sampled:	5/16/90	5/16/90	5/16/90	5/16/90	5/16/90
Inorganic Traffic Report Number:	MEZ601	MEZ602	MEZ603	MEZ604	MEZ605
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
Metals and Cyanide Units:	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	5530	6010	7380	7880	1860
Antimony	10.9B	11.0B		9.2B	
Arsenic	6.6	7.1	9.3	3.2	1.7B
Barium	51.6B	66.1	43.8B	44.3B	132B
Beryllium	0.68B	1.0B	0.80B	0.55B	
Cadmium					
Calcium	80800	74100	32100	52000	184000
Chromium	11.5	10.5	12.3	11.9	7.6
Cobalt	4.2B	4.0B	5.0B	5.0B	
Copper	20.8	18.5	15.9	13.4	8.7B
Iron	14500	19800	12100	12000	4620
Lead	37.4*	16.8*	29.2S*	35.7S*	58.5S*
Magnesium	16900	12900	7310	8980	4710
Manganese	185	210	133	222	485
Mercury					
Nickel	14.1	13.9	12.3	14.1	
Potassium	1170B	1470B	1050B	1140B	1050B
Selenium					
Silver	5.3	5.9	5.3	6.0	10.4
Sodium	267B	336B	282B	283B	686B
Thallium			1.0B		
Vanadium	19.0	21.4	21.8	21.8	11.0B
Zinc	61.3	59.3	46.9	46.5	43.5
Cyanide					

Sample Collection Information					
Station Location:	183071	183075	183079	183083	183087
Date Sampled:	5/16/90	5/16/90	5/16/90	5/16/90	5/16/90
Inorganic Traffic Report Number:	MEZ606	MEZ607	MEZ608	MEZ609	MEZ610
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
Metals and Cyanide Units:	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Aluminum	1330	4030	3470	957	2300
Antimony		8.6B	5.5B	8.6B	9.9B
Arsenic	1.2B	3.9	2.3	3.4	10.6
Barium	133B	112	20.7B	227	132
Beryllium		0.63B			
Cadmium		3.3	2.2		
Calcium	213000	156000	30800	303000	195000
Chromium		39.3	30.1	3.5	8.0
Cobalt		3.5B	3.6B		
Copper	5.9B	16.5	12.9	8.9	16.8
Iron	4410	10900	6340	13500	13900
Lead	34.2*	51.0W*	14.2W*	6.2W*	4.2W*
Magnesium	3940	8540	5050	8040	6790
Manganese	626	301	163	350	311
Mercury		0.10			0.41
Nickel		12.6	16.3		8.9B
Potassium	746B	752B	634B	472B	533B
Selenium					
Silver	10.5	4.1	5.2	3.8	4.2
Sodium	654B	255B	76.5B	330B	360B
Thallium					
Vanadium	10.1B	13.8	12.4	7.0B	9.1B
Zinc	32.6	79.5	122	22.9	38.8
Cyanide					

Sample Collection Information					
Station Location:	183091	183097	183101	183105	183109
Date Sampled:	5/16/90	5/16/90	5/16/90	5/16/90	5/16/90
Inorganic Traffic Report Number:	MEZ611	MEZ612	MEZ613	MEZ614	MEZ615
Matrix:	WATER	SOIL	SOIL	SOIL	WATER
Metals and Cyanide Units:	UG/L	MG/KG	MG/KG	MG/KG	UG/L
Aluminum		3790	4240	5610	
Antimony		17.1B	16.4B	12.8B	44.6B
Arsenic		6.6	5.8	6.8	
Barium		78.4	77.2B	86.0	227
Beryllium		0.69B	1.00B	1.1B	
Cadmium		1.7			
Calcium	128B	74500	134000	69800	183000
Chromium		41.5	27.1	17.1	
Cobalt		3.0B		6.0B	
Copper		21.0	50.3	26.1	
Iron		14000	23400	17900	67.9B
Lead		87.1*	150*	54.9*	
Magnesium		17500	18200	13200	41500
Manganese		222	489	456	201
Mercury					
Nickel		15.8	15.5B	15.0	
Potassium	2650B	813B	848B	1140B	5940
Selenium					
Silver	33.3	6.8	7.8	6.6	15.8
Sodium		330B	376B	407B	107000
Thallium					
Vanadium	16.3B	15.4	15.3B	19.3	11.6B
Zinc		160	192	90.0	
Cyanide					

Sample Collection Information		
Station Location:	183115	183121
Date Sampled:	5/16/90	5/16/90
Inorganic Traffic Report Number:	MEZ616	MEZ617
Matrix:	WATER	WATER
Metals and Cyanide Units:	UG/L	UG/L
Aluminum		
Antimony	41.5B	42.5B
Arsenic		
Barium	222	200
Beryllium		
Cadmium		
Calcium	179000	170000
Chromium		
Cobalt		
Copper		
Iron	51.5B	42.1B
Lead		
Magnesium	41700	39700
Manganese	199	177
Mercury		
Nickel		
Potassium	6180	6810
Selenium		
Silver	19.4	15.3
Sodium	107000	116000
Thallium		
Vanadium	12.4B	12.0B
Zinc	24.1	22.0
Cyanide		

The review of the raw inorganic data for The Ypsilanti Township Landfill was acceptable with the following exceptions.

1) The soil analysis sample spike had Barium, Potassium and Sodium out of control. The contract requires the redigestion and reanalysis of these samples for these elements. There was no evidence of this occurring from this data package.

2) The contract requires that working standards be prepared the day of analysis. There was evidence of this for all elements except for Selenium, Tellurium and Mercury.

3) The Statement of Work for Inorganic Analysis states that the contract required detection limit for Lead in water is 5 ppb not 3 ppb as stated in this data.

Reviewed by: Peter Pinnelli

Summary Date: 2/8/91

Contract Laboratory Program
Target Compound List
Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Chloromethane	74-87-3	10 ug/L	10 ug/Kg
Bromomethane	74-83-9	10	10
Vinyl chloride	75-01-4	10	10
Chloroethane	75-00-3	10	10
Methylene chloride	75-09-2	5	5
Acetone	67-64-1	10	5
Carbon disulfide	75-15-0	5	5
1,1-dichloroethene	75-35-4	5	5
1,1-dichloroethane	75-34-3	5	5
1,2-dichloroethene (total)	540-59-0	5	5
Chloroform	67-66-3	5	5
1,2-dichloroethane	107-06-2	5	5
2-butanone (MEK)	78-93-3	10	10
1,1,1-trichloroethane	71-55-6	5	5
Carbon tetrachloride	56-23-5	5	5
Vinyl acetate	108-05-4	10	10
Bromodichloromethane	75-27-4	5	5
1,2-dichloropropane	78-87-5	5	5
cis-1,3-dichloropropene	10061-01-5	5	5
Trichloroethene	79-01-6	5	5
Dibromochloromethane	124-48-1	5	5
1,1,2-trichloroethane	79-00-5	5	5
Benzene	71-43-2	5	5
Trans-1,3-dichloropropene	10061-02-6	5	5
Bromoform	75-25-2	5	5
4-Methyl-2-pentanone	108-10-1	10	10
2-Hexanone	591-78-6	10	10
Tetrachloroethene	127-18-4	5	5
Tolene	108-88-3	5	5
1,1,2,2-tetrachloroethane	79-34-5	5	5
Chlorobenzene	108-90-7	5	5
Ethyl benzene	100-41-4	5	5
Styrene	100-42-5	5	5
Xylenes (total)	1330-20-7	5	5

Table A
Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Phenol	108-95-2	10 ug/L	330 ug/Kg
bis(2-Chloroethyl) ether	111-44-4	10	330
2-Chlorophenol	95-57-8	10	330
1,3-Dichlorobenzene	541-73-1	10	330
1,4-Dichlorobenzene	106-46-7	10	330
Benzyl Alcohol	100-51-6	10	330
1,2-Dichlorobenzene	95-50-1	10	330
2-Methylphenol	95-48-7	10	330
bis(2-Chloroisopropyl) ether	108-60-1	10	330
4-Methylphenol	106-44-5	10	330
N-Nitroso-di-n-dipropylamine	621-64-7	10	330
Hexachloroethane	67-72-1	10	330
Nitrobenzene	98-95-3	10	330
Isophorone	78-59-1	10	330
2-Nitrophenol	88-75-5	10	330
2,4-Dimethylphenol	105-67-9	10	330
Benzoic Acid	65-85-0	50	1600
bis(2-Chloroethoxy) methane	111-91-1	10	330
2,4-Dichlorophenol	120-83-2	10	330
1,2,4-Trichlorobenzene	120-82-1	10	330
Naphthalene	91-20-3	10	330
4-Chloroaniline	106-47-8	10	330
Hexachlorobutadiene	87-68-3	10	300
4-Chloro-3-methylphenol	59-50-7	10	330
2-Methylnaphthalene	91-57-6	10	330
Hexachlorocyclopentadiene	77-47-4	10	330
2,4,6-Trichlorophenol	88-06-2	10	330
2,4,5-Trichlorophenol	95-95-4	50	1600
2-Chloronaphthalene	91-58-7	10	330
2-Nitroaniline	88-74-4	50	1600
Dimethylphthalate	131-11-3	10	330
Acenaphthylene	208-96-8	10	330
2,6-Dinitrotoluene	606-20-2	10	330
3-Nitroaniline	99-09-2	50	1600
Acenaphthene	83-32-9	10	330
2,4-Dinitrophenol	51-28-5	50	1600
4-Nitrophenol	100-02-7	50	1600
Dibenzofuran	132-64-9	10	330
2,4-Dinitrotoluene	121-14-2	10	330
Diethylphthalate	84-66-2	10	330
4-Chlorophenyl-phenyl ether	7005-72-3	10	330

Table A
Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SLUDGE SEDIMENT
Fluorene	86-73-7	10 ug/L	330 ug/Kg
4-Nitroaniline	100-01-6	50	1600
4,6-Dinitro-2-methylphenol	534-52-1	50	1600
N-nitrosodiphenylamine	86-30-6	10	330
4-Bromophenyl-phenylether	101-55-3	10	330
Hexachlorobenzene	118-74-1	10	330
Pentachlorophenol	87-86-5	50	1600
Phenanthrene	85-01-8	10	330
Anthracene	120-12-7	10	330
Di-n-butylphthalate	84-74-2	10	330
Fluoranthene	206-44-0	10	330
Pyrene	129-00-0	10	330
Butylbenzylphthalate	85-68-7	10	330
3,3'-Dichlorobenzidine	91-94-1	20	660
Benzo(a)anthracene	56-55-3	10	330
Chrysene	218-01-9	10	330
bis(2-Ethylhexyl)phthalate	117-81-7	10	330
Di-n-octylphthalate	117-84-0	10	330
Benzo(b)fluoranthene	205-99-2	10	330
Benzo(k)fluoranthene	207-08-9	10	330
Benzo(a)pyrene	50-32-8	10	330
Indeno(1,2,3-cd)pyrene	193-39-5	10	330
Dibenz(a,h)anthracene	53-70-3	10	330
Benzo(g,h,i)perylene	191-24-2	10	330

Table A
Contract Laboratory Program
Target Compound List
Pesticide and PCB Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
alpha-BHC	319-84-6	0.05 ug/L	8 ug/Kg
beta-BHC	319-85-7	0.05	8
delta-BHC	319-86-8	0.05	8
gamma-BHC (Lindane)	58-89-9	0.05	8
Heptachlor	76-44-8	0.05	8
Aldrin	309-00-2	0.05	8
Heptachlor epoxide	1024-57-3	0.05	8
Endosulfan I	959-98-8	0.05	8
Dieldrin	60-57-1	0.10	16
4,4'-DDE	72-55-9	0.10	16
Endrin	72-20-8	0.10	16
Endosulfan II	33213-65-9	0.10	16
4,4'-DDD	72-54-8	0.10	16
Endosulfan sulfate	1031-07-8	0.10	16
4,4'-DDT	50-29-3	0.10	16
Methoxychlor (Mariate)	72-43-5	0.5	80
Endrin ketone	53494-70-5	0.10	16
alpha-Chlordane	5103-71-9	0.5	80
gamma-chlordane	5103-74-2	0.5	80
Toxaphene	8001-35-2	1.0	160
AROCLOR-1016	12674-11-2	0.5	80
AROCLOR-1221	11104-28-2	0.5	80
AROCLOR-1232	11141-16-5	0.5	80
AROCLOR-1242	53469-21-9	0.5	80
AROCLOR-1248	12672-29-6	0.5	80
AROCLOR-1254	11097-69-1	1.0	160
AROCLOR-1260	11096-82-5	1.0	160

Table A (Cont.)

CONTRACT LABORATORY PROGRAM

TARGET ANALYTE LIST (TAL)

INORGANIC DETECTION LIMITS

Compound	Procedure	Detection Limits: Water (µg/L)	Detection Limits: Soil Sediment Sludge (mg/kg)
aluminum	ICP	200	40
antimony	furnace	60	2.4
arsenic	furnace	10	2
barium	ICP	200	40
beryllium	ICP	5	1
cadmium	ICP	5	1
calcium	ICP	5,000	1,000
chromium	ICP	10	2
cobalt	ICP	50	10
copper	ICP	25	5
iron	ICP	100	20
lead	furnace	5	1
magnesium	ICP	5,000	1,000
manganese	ICP	15	3
mercury	cold vapor	0.2	0.008
nickel	ICP	40	8
potassium	ICP	5,000	1,000
selenium	furnace	5	1
silver	ICP	10	2
sodium	ICP	5,000	1,000
thallium	furnace	10	2
tin	ICP	40	8
vanadium	ICP	50	10
zinc	ICP	20	4
cyanide	color	10	2

3767:1

ADDENDUM B

CENTRAL REGIONAL LABORATORY
DETECTION LIMITS

TABLE B
CENTRAL REGIONAL LABORATORY
VOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIt IN REAGENT WATER
Benzene	71-43-2	1.5 ug/L
Bromodichloromethane	75-27-4	1.5
Bromoform	75-25-2	1.5
Bromomethane	74-83-9	10
Carbon tetrachloride	56-23-5	1.5
Chlorobenzene	108-90-7	1.5
Chloroethane	75-00-3	1.5
2-Chloroethyl vinyl ether	110-75-8	1.5
Chloroform	67-66-3	1.5
Chloromethane	74-87-3	10
Dibromochloromethane	124-48-1	1.5
1,1-dichloroethane	75-34-3	1.5
1,2-dichloroethane	107-06-2	1.5
1,1-dichloroethene	75-35-4	1.5
Total-1,2-dichloroethene	540-59-0	1.5
1,2-dichloropropane	78-87-5	1.5
cis-1,3-dichloropropene	10061-01-5	2
trans-1,3-dichloropropene	10061-02-6	1
Ethyl benzene	100-41-4	1.5
Methylene chloride*	75-09-2	1
1,1,2,2-tetrachloroethane	79-34-5	1.5
Tetrachloroethene	127-18-4	1.5
Toluene*	108-88-3	1.5
1,1,1-trichloroethane	71-55-6	1.5
1,1,2-trichloroethane	79-00-5	1.5
Trichloroethene	79-01-6	1.5
Vinyl chloride	75-01-4	10
Acrolein	107-02-8	100
Acetone*	67-64-1	75
Acrylonitrile	107-13-1	50
Carbon disulfide	75-15-0	3
2-butanone	78-93-3	(50)
Vinyl acetate	108-05-4	15
4-Methyl-2-Pentanone	108-10-1	(3)
2-Hexanone	519-78-6	(50)
Styrene	100-42-5	1
m-xylene	108-38-3	2
o-xylene**	95-47-6	
p-xylene**	106-42-3	2.5**
Total Xylene	1330-02-7	

* Common Laboratory Solvents.
Blank Limit is 5X Method Detection Limit.
( ) Values in parentheses are estimates.
Actual values are being determined at this time.
** The o-xylene and p-xylene are reported as a total of the two.

TABLE B (cont.)
CRL
SEMIVOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK LIMIT
Aniline	62-53-3	1.5 ug/L	3 ug/L
Bis(2-chloroethyl)ether	111-44-4	1.5	3
Phenol	108-95-2	2	4
2-Chlorophenol	95-57-8	2	4
1,3-Dichlorobenzene	541-73-1	2	4
1,4-Dichlorobenzene	106-46-7	2	4
1,2-Dichlorobenzene	95-50-1	2.5	5
Benzyl alcohol	100-51-6	2	4
Bis(2-chloroisopropyl) ether	39638-32-9	2.5	5
2-Methylphenol	95-48-7	1	2
Hexachloroethane	67-72-1	2	4
N-nitrosodipropylamine	621-64-7	1.5	3
Nitrobenzene	98-95-3	2.5	5
4-Methylphenol	106-44-5	1	2
Isophorone	78-59-1	2.5	5
2-Nitrophenol	88-75-5	2	4
2,4-Dimethylphenol	105-67-9	2	4
Bis(2-chloroethoxy)methane	111-91-1	2.5	5
2,4-Dichlorophenol	120-83-2	2	4
1,2,4-Trichlorobenzene	120-82-1	2	4
Naphthalene	91-20-3	2	4
4-Chloroaniline	106-47-8	2	4
Hexachlorobutadiene	87-68-3	2.5	5
Benzoic acid	65-85-0	(30)	(60)
2-Methylnapthalene	91-57-6	2	4
4-Chloro-3-methylphenol	59-50-7	1.5	3
Hexachlorocyclopentadiene	77-47-4	2	4
2,4,6-Trichlorophenol	88-06-2	1.5	3
2,4,5-Trichlorophenol	95-95-4	1.5	3
2-Chloronapthalene	91-58-7	1.5	3
Acenapthylene	208-96-8	1.5	3
Dimethyl phthalate	131-11-3	1.5	3
2,6-Dinitrotoluene	606-20-2	1	2
Acenaphthene	83-32-9	1.5	3
3-Nitroaniline	99-09-2	2.5	5
Dibenzofuran	132-64-9	1	2
2,4-Dinitrophenol	51-28-5	(15)	(30)
2,4-Dinitrotoluene	121-14-2	1	2
cont.			

TABLE B (Cont.)
CRL
SEMIVOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK (a) LIMIT
Fluorene	86-73-7	1 ug/L	2 ug/L
4-Nitrophenol	100-02-7	1.5	3
4-Chlorophenyl phenyl ether	7005-72-3	1	2
Diethylphthalate	84-66-2	1	2
4,6-dinitro-2-methylphenol	534-52-1	(15)	(30)
1,2-Diphenylhydrazine	122-66-7	1	2
n-Nitrosodiphenylamine *	86-30-6		
Diphenylamine *	122-39-4	1.5	3
4-Nitroaniline	100-01-6	3	6
4-Bromophenyl-phenylether	101-55-3	1.5	3
Hexachlorobenzene	118-74-1	1.5	3
Pentachlorophenol	87-86-5	2	4
Phenanthrene	85-01-8	1	2
Anthracene	120-12-7	2.5	5
Di-n-butylphthalate	84-74-2	2	4
Fluoranthene	206-44-0	1.5	3
Pyrene	129-00-0	1.5	3
Butylbenzylphthalate	85-68-7	3.5	7
Chrysene **	218-01-9		
Benzo(a)anthracene **	56-55-3	1.5	3
bis(2-Ethylhexyl)phthalate	117-81-7	1	2
Di-n-octyl phthalate	117-84-0	1.5	3
Benzo(b)fluoranthene ***	205-99-2		
Benzo(k)fluoranthene ***	207-08-9	1.5	3
Benzo(a)pyrene	50-32-8	2	4
Indeno(1,2,3-cd)pyrene	193-39-5	3.5	7
Dibenzo(a,h)anthracene	53-70-3	2.5	5
Benzo(g,h,i)perylene	191-24-2	4	8
2-Nitroaniline	88-74-4	1	2

* These two parameters are reported as a total.
** These two parameters are reported as a total.
*** These two parameters are reported as a total.
(a) If the blank limit is exceeded, the sample is reextracted and rerun.
( ) Values in parentheses are estimates.
The actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE B (Cont.)
CRL
PESTICIDE AND PCB DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	(0.010)
beta BHC	319-85-7	(0.005)
delta BHC	319-86-8	(0.005)
gama BHC (Lindane)	58-89-9	0.005
Chlordane	57-74-8	(0.020)
4,4'-DDD	72-54-8	(0.020)
4,4'-DDE	72-55-9	(0.005)
4,4'-DDT	50-29-3	0.020
Dieldrin	60-57-1	0.010
Endosulfan I	959-98-8	0.010
Endosulfan II	33213-65-9	0.010
Endosulfan sulfate	1031-07-8	(0.10)
Endrin	72-20-8	0.010
Endrin aldehyde	7421-93-4	(0.030)
Endrin ketone	53494-70-5	(0.030)
Heptachlor	76-44-8	0.030
Heptachlor epoxide	1024-57-3	0.005
4,4'-Methoxychlor	72-43-5	0.020
Toxaphene	8001-35-2	(0.25)
PCB-1242	53469-21-9	(0.10)
PCB-1248	12672-29-6	(0.10)
PCB-1254	11097-69-1	(0.10)
PCB-1260	11096-82-5	(0.10)

( ) Values in parentheses are estimates.
Actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE B (Cont.)
CRL
INORGANIC DETECTION LIMITS

COMPOUND	PROCEDURE	DETECTION LIMITS	RANGE	UNITS
Aluminum	ICP	100	80 to 1,000,000	ug/L
Antimony	Furnace	2	2 to 30	ug/L
Arsenic	Furnace	2	2 to 30	ug/L
Barium	ICP	50	6 to 20,000	ug/L
Beryllium	ICP	5	1 to 20,000	ug/L
Boron	ICP	80	80 to 20,000	ug/L
Cadmium	ICP	10	10 to 20,000	ug/L
Cadmium	Furnace	0.2	0.2 to 2	ug/L
calcium	ICP	1000	0.5 to 1,000	mg/L
Chromium	ICP	10	8 to 20,000	ug/L
Cobalt	ICP	10	6 to 20,000	ug/L
Copper	ICP	10	6 to 20,000	ug/L
iron	ICP	100	80 to 1,000,000	ug/L
Lead	Furnace	2	2 to 30	ug/L
Lead	ICP	70	70 to 20,000	ug/L
Lithium	ICP	10	10 to 20,000	ug/L
Magnesium	ICP	1000	0.1 to 200	mg/L
Maganese	ICP	10	5 to 20,000	ug/L
Mercury	Cold vapor	0.2	0.1 to 2	ug/L
Molybdenum	ICP	15	15 to 20,000	ug/L
Nickel	ICP	20	15 to 20,000	ug/L
Potassium	ICP	2000	5 to 1,000	mg/L
Selenium	Furnace	2	2 to 30	ug/L
Silver	ICP	5	6 to 10,000	ug/L
Sodium	ICP	1000	1 to 1,000	mg/L
Strontium	ICP	10	10 to 20,000	ug/L
Sulfide	Titration	1	< 1	mg/L
Sulfide	Color	0.05	< 1	mg/L
Thallium	Furnace	2	2 to 30	ug/L
Titanium	ICP	25	25 TO 20,000	UG/L
Tin	ICP	40	40 to 20,000	ug/L
Vanadium	ICP	10	5 to 20,000	ug/L
Yttrium	ICP	5	5 to 20,000	ug/L
Zinc	ICP	20	40 to 1,000,000	ug/L
Cyanide	AA	5.0	8 to 200	ug/L

Note: The above list may or may not contain compounds that are routinely analyzed at CRL for low level detection limits for drinking water.

See inorganic Routine Analytical Services for related CAS #.

ADDENDUM C

SPECIAL ANALYTICAL SERVICES
DETECTION LIMITS

Drinking Water Samples

TABLE C
SPECIAL ANALYTICAL SERVICES DRINKING WATER
VOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT IN REAGENT WATER
Benzene	71-43-2	1.5 ug/L
Bromodichloromethane	75-27-4	1.5
Bromoform	75-25-2	1.5
Bromomethane	74-83-9	1.5
Carbon tetrachloride	56-23-5	1.5
Chlorobenzene	108-90-7	1.5
Chloroethane	75-00-3	1.5
2-Chloroethyl vinyl ether	110-75-8	1.5
Chloroform	67-66-3	1.5
Chloromethane	74-87-3	1.5
Dibromochloromethane	124-48-1	1.5
1,1-Dichloroethane	75-34-3	1.5
1,2-Dichloroethane	107-06-2	1.5
1,1-Dichloroethene	75-35-4	1.5
Total-1,2-Dichloroethene	540-59-0	1.5
1,2-Dichloropropane	78-87-5	1.5
cis-1,3-Dichloropropene	10061-01-5	2
trans-1,3-Dichlopropropene	10061-02-6	1
Ethyl benzene	100-41-4	1.5
Methylene chloride *	75-09-2	1
1,1,2,2-Tetrachloroethane	79-34-5	1.5
Tetrachloroethene	127-18-4	1.5
Toluene *	108-88-3	1.5
1,1,1-Trichloroethane	71-55-6	1.5
1,1,2-Trichloroethane	79-00-5	1.5
Trichloroethene	79-01-6	1.5
Vinyl chloride	75-01-4	1.5
Acrolein	107-02-8	25
Acetone *	67-64-1	5
Acrylonitrile	107-13-1	25
Carbon disulfide	75-15-0	3
2-Butanone	78-93-3	5
Vinyl acetate	108-05-4	5
4-Methyl-2-pentanone	108-10-1	1.5
2-Hexanone	519-78-6	5
Styrene	100-42-5	1
Xylene (total)	1330-02-7	1.5

* Common laboratory solvents.
Blank limit is 5x method detection limit.
( ) Values in parentheses are estimates.
actual values are being determined at this time.

TABLE C (cont.)
SAS DRINKING WATER
SEMIVOLATILES QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aniline	62-53-3	1.5 ug/l
Bis(2-chloroethyl)ether	111-44-4	1.5
Phenol	108-95-2	2
2-Chlorophenol	95-57-8	2
1,3-Dichlorobenzene	541-73-1	2
1,4-Dichlorobenzene	106-46-7	2
1,2-Dichlorobenzene	95-50-1	2.5
Benzyl alcohol	100-51-6	2
Bis(2-chloroisopropyl)ether	39638-32-9	2.5
2-Methylphenol	95-48-7	1
Hexachloroethane	67-72-1	2
n-Nitrosodipropylamine	621-64-7	1.5
Nitrobenzene	98-95-3	2.5
4-Methylphenol	106-44-5	1
Isophorone	78-59-1	2.5
2-Nitrophenol	88-75-5	2
2,4-Dimethylphenol	105-67-9	2
Bis(2-Chloroethoxy)methane	111-91-1	2.5
2,4-Dichlorophenol	120-83-2	2
1,2,4-Trichlorobenzene	120-82-1	2
Naphthalene	91-20-3	2
4-Chloroaniline	106-47-8	2
Hexachlorobutadiene	87-68-3	2.5
Benzoic Acid	65-85-0	20
2-Methylnapthalene	91-57-6	2
4-Chloro-3-methylphenol	59-50-7	1.5
Hexachlorocyclopentadiene	77-47-4	2
2,4,6-Trichlorophenol	88-06-2	1.5
2,4,5-Trichlorophenol	95-95-4	1.5
2-Chloronapthalene	91-58-7	1.5
Acenapthylhene	208-96-8	1.5
Dimethyl phthalate	131-11-3	1.5
2,6-Dinitrotoluene	606-20-2	1
Acenaphthene	83-32-9	1.5
3-Nitroaniline	99-09-2	2.5
Dibenzofuran	132-64-9	1
2,4-Dinitrophenol	51-28-5	(15)
2,4-Dinitrotoluene	121-14-2	1

TABLE C (Cont.)
SAS DRINKING WATER
SEMIVOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Fluorene	86-73-7	1 ug/L
4-Nitrophenol	100-02-7	1.5
4-Chlorophenyl phenyl ether	7005-72-3	1
Diethyl phthalate	84-66-2	1
4,6-Dinitro-2-methylphenol	534-52-1	(15)
1,2-Diphenylhydrazine	122-66-7	1
n-Nitrosodiphenylamine *	86-30-6	
Diphenylamine *	122-39-4	1.5
4-Nitroaniline	100-01-6	3
4-Bromophenyl-phenylether	101-55-3	1.5
Hexachlorobenzene	118-74-1	1.5
Pentachlorophenol	87-86-5	2
Phenanthrene	85-01-8	1
Anthracene	120-12-7	2.5
di-n-Butyl phthalate	84-74-2	2
Fluoranthene	206-44-0	1.5
Pyrene	129-00-0	1.5
Butyl benzyl phthalate	85-68-7	3.5
Chrysene **	218-01-9	
Benzo(A)Anthracene **	56-55-3	1.5
bis(2-ethylhexyl)phthalate	117-81-7	1
di-n-Octyl phthalate	117-84-0	1.5
Benzo(b)fluoranthene ***	205-99-2	
Benzo(k)fluoranthene ***	207-08-9	1.5
Benzo(a)pyrene	50-32-8	2
Indeno(1,2,3-cd)pyrene	193-39-5	3.5
Dibenzo(a,h)anthracene	53-70-3	2.5
Benzo(g,h,i)perylene	191-24-2	4
2-Nitroaniline	88-74-4	1

* These two parameters are reported as a total.
** These two parameters are reported as a total.
*** These two parameters are reported as a total.

( ) Values in parentheses are estimates.
The actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE C (Cont.)
SAS DRINKING WATER
PESTICIDE AND PCB QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	0.010
beta BHC	319-85-7	0.005
delta BHC	319-86-8	0.005
gamma BHC (Lindane)	58-89-9	0.005
alpha-Chlordane	5103-71-9	0.020
gamma-Chlordane	5103-74-2	0.020
4,4'-DDD	72-54-8	0.020
4,4'-DDE	72-55-9	0.005
4,4'-DDT	50-29-3	0.020
Dieldrin	60-57-1	0.010
Endosulfan I	959-98-8	0.010
Endosulfan II	33213-65-9	0.010
Endosulfan sulfate	1031-07-8	0.10
Endrin	72-20-8	0.010
Endrin Aldehyde	7421-93-4	(0.030)
Endrin Ketone	53494-70-5	0.030
Heptachlor	76-44-8	0.030
Heptachlor Epoxide	1024-57-3	0.005
4,4'-Methoxychlor	72-43-5	0.020
Toxaphene	8001-35-2	0.25
Aroclor-1016	12674-11-2	0.10
Aroclor-1221	11104-28-2	0.10
Aroclor-1232	11141-16-5	0.10
Aroclor-1242	53469-21-9	0.10
Aroclor-1248	12672-29-6	0.10
Aroclor-1254	11097-69-1	0.10
Aroclor-1260	11096-82-5	0.10

( ) Values in parentheses are estimates.
Actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE C (Cont.)
SAS DRINKING WATER
INORGANIC DETECTION LIMITS

PARAMETER	PROCEDURE	DETECTION LIMIT
Aluminum	ICP	100
Antimony	GFAA	5
Arsenic	GFAA	5
Barium	ICP	50
Beryllium	ICP	5
Cadmium	GFAA	0.5
Calcium	ICP	1000
Chromium	ICP	10
Cobalt	ICP	10
Copper	ICP	10
Iron	ICP	100
Lead	GFAA	2
Magnesium	ICP	1000
Manganese	ICP	10
Mercury	Cold Vapor	0.2
Nickel	ICP	20
Potassium	ICP	2000
Selenium	GFAA	2
Silver	ICP	5
Sodium	ICP	1000
Thallium	GFAA	2
Tin	ICP	40
Vanadium	ICP	10
Zinc	ICP	20
Cyanide	Colorimetric	10

Note: The above list may or may not contain compounds that are routinely analyzed at CRL for low level detection limits for drinking water.

See inorganic Routine Analytical Services (RAS) for related CAS #.

SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 14105 | SAS NO: (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RIFS RD RA ER
NPLD O&M OTHER
NON-SUPERFUND PROGRAM

SITE NAME: Ypsilanti Twp-LF
CITY, STATE: Ypsilanti MI SITE SPILL ID:

REGION NO: V SAMPLING COMPANY: ② MDNR
SAMPLER: (NAME) Cindy Fairbanks

SHIP TO: ③ Associated Labs
806 North Batavia
Orange CA 92668
ATTN: Carol Holland

SAMPLING DATE: ④
BEGIN: 5/15/90 END: 5/15/90

DATE SHIPPED: 5/15/90 CARRIER: AB ⑤
AIRBILL NO: 651571001

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1)	Ⓑ CONCENTRATION (L = LOW, M = MED, H = HIGH (SAS))	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	SOLIDS	CORROSIVITY	IGNITABILITY	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MEZ611		L		X	X						FB (SI)
MEZ615	1	L		X	X						S15
MEZ616	1	L		X	X						S16
MEZ617	1	L		X	X						S17

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 14105 | SAS NO: (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER
NPLD O&M OTHER
NON-SUPERFUND PROGRAM

SITE NAME: Ypsilanti Twp-F
CITY, STATE: Ypsilanti MI SITE SPILL ID:

REGION NO: 5 SAMPLING COMPANY ② MDNR
SAMPLER: (NAME) Cindy Fairbanks

SHIP TO: ③ Associated Labs, Inc
806 North Batavia
Orange, CA 92668
ATTN: Carol Holland

SAMPLING DATE: ④
BEGIN: 5/15/90 END: 5/15/90
DATE SHIPPED: 5/15/90 CARRIER: AB ⑤
AIRBILL NO: 6515711012

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS)
7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

2 of 2 EQS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION (L = LOW/M = MED / H = HIGH (SAS))	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS):				Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MEZ 601	4	L	X	X							S01
MEZ 602	4	L	X	X							S02
MEZ 603	4	L	X	X							S03
MEZ 604	4	L	X	X							S04
MEZ 605	4	L	X	X							S05
MEZ 606	4	L	X	X							S06
MEZ 607	4	L	X	X							S07
MEZ 608	4	L	X	X							S08
MEZ 609	4	L	X	X							S09
MEZ 610	4	L	X	X							S010
MEZ 612	5	L	X	X							S01
MEZ 613	5	L	X	X							S02
MEZ 614	5	L	X	X							S03

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 14105

SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

① TYPE OF ACTIVITY (CIRCLE ONE): SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER; NON-SUPERFUND PROGRAM

SITE NAME: Ypsilanti

CITY, STATE: Ypsilanti MI SITE SPILL ID:

② REGION NO: V SAMPLING COMPANY: MDNR

SAMPLER: (NAME) Cindy Fairbanks

③ SHIP TO: ENSECO 205 Alewife Brook Pky Cambride, MA 02138-1101 ATTN: Liz McCarthy

④ SAMPLING DATE: BEGIN: 5/15/90 END: 5/15/90

⑤ DATE SHIPPED 5/15/90 CARRIER: AB

AIRBILL NO: 6515709186

⑥ SAMPLE DESCRIPTION (ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1)	Ⓑ CONCENTRATION L, LOW MED H, HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
EZ495	1	L	X	X	X		S15
EZ496	1	L	X	X	X		S16
EZ497	1	L	X	X	X		S17

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 14105 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND PA SI ESI RIFS RD BA ER
NPL D&M OTHER
NON-SUPERFUND PROGRAM

SITE NAME: Ypsilanti Toop Lf
CITY, STATE: Ypsilanti SITE SPILL ID:

REGION NO: 5 SAMPLING COMPANY: ② MDNR
SAMPLER: (NAME) Cindy Fairbanks

SHIP TO: ③ ENSECO CERCO Cambridge
2205 Alewife Brook Pky
Cambridge, MA 02138-1101
ATTN: Liz McCarthy

SAMPLING DATE: ④
BEGIN: 5/15/90 END: 5/15/90

DATE SHIPPED: 5/15/90 CARRIER: AB ⑤
AIRBILL NO: 6515710545

SAMPLE DESCRIPTION ⑥
ENTER IN BOX A)
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	A SAMPLE DESCRIPTION (FROM BOX 1)	B CONCENTRATION (L=LOW/MED, H=HIGH) (SAS)	C RAS ANALYSIS: VOLATILE	BASE/NEUT/ACID	PESTICIDE/PCB's		D SPECIAL HANDLING	E STATION LOCATION
EZ411	4	L	X	X	X			SS1
EZ412	4	L	X	X	X			SS2
EZ413	4	L	X	X	X			SS3
EZ414	4	L	X	X	X			SS4
EZ415	4	L	X	X	X			SS5
EZ416	4	L	X	X	X			SS6
EZ417	4	L	X	X	X			SS7
EZ418	4	L	X	X	X			SS8
EZ419	4	L	X	X	X			SS9
EZ420	4	L	X	X	X			SS10

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 14105 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER
NPLD O&M OTHER
NON-SUPERFUND PROGRAM

SITE NAME: Ypsilanti Regional Plastic
CITY, STATE: Ypsilanti, MI SITE SPILL ID:

REGION NO: 5 SAMPLING COMPANY: ② MONA
SAMPLER: (NAME) Cindy Fairbanks

SHIP TO: ③ ENSECO
Los Alamos Brook Pky
Cambridge, MA 02138
1101
ATTN: Liz McCarthy

SAMPLING DATE: ④
BEGIN: 5/15/90 END: 5/15/90

DATE SHIPPED 5/15/90 CARRIER: AB ⑤
AIRBILL NO: 651570990

SAMPLE DESCRIPTION (ENTER IN BOX A) ⑥
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

3 of 3
LOS

SAMPLE NUMBER (FROM LABELS)	SAMPLE DESCRIPTION (FROM BOX 1) A	CONCENTRATION L=LOW/MED; H=HIGH (SAS) B	RAS ANALYSIS C: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		SPECIAL HANDLING D	STATION LOCATION E
E2422	5	L	X	X	X	X		S12
E2423	5	L	X	X	X	X		S13
E2424	5	L	X	X	X	X		S14
E2421		L	X	X	X	X		S11 (FB)

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

CHAIN OF CUSTODY RECORD

REGION 6
230 South Dearborn Street
Chicago, Illinois 60604

1 of 2

PROJ. NO.	PROJECT NAME (Case #)
90-N605	14105

SAMPLERS: (Signature)
Cindy Strainbrook

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Metals	Cyanide			REMARKS		
											ITR	OTR	Tag #
S14	5/15/90			X	FB	2	1	1			MEZ611	EZ421	183091 183092
S15	5/15/90			X	SW1	2	1	1			MEZ615	EZ425	183109
S16	5/15/90			X	SW2	2	1	1			MEZ616	EZ426	183115
S17	5/15/90			X	SW3	2	1	1			MEZ617	EZ427	183116

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Cindy Strainbrook	5/15/90 2pm				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
				Airborn 651571001 Associated Labs Custody # 2898, 2899	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5- 14192

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO. 90MF05 PROJECT NAME (Case #) 14105

SAMPLERS: (Signature) Cindy S Fairbanks

2 of 2 EOS

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Metals	Cyanide	ITR	OTR	Tag #
S01	5/15/90			X	SS1	1	X	X	MEZ601	EZ411	183051
S02	5/15/90			X	SS2	1	X	X	MEZ602	EZ412	183055
S03	5/15/90			X	SS3	1	X	X	MEZ603	EZ413	183059
S04	5/15/90			X	SS4	1	X	X	MEZ604	EZ414	183063
S05	5/15/90			X	SS5	1	X	X	MEZ605	EZ415	183067
S06	5/15/90			X	SS6	1	X	X	MEZ606	EZ416	183071
S07	5/15/90			X	SS7	1	X	X	MEZ607	EZ417	183075
S08	5/15/90			X	SS8	1	X	X	MEZ608	EZ418	183079
S09	5/15/90			X	SS9	1	X	X	MEZ609	EZ419	183083
S10	5/15/90			X	SS10	1	X	X	MEZ610	EZ420	183087
S12	5/15/90			X	SD1	1	X	X	MEZ612	EZ422	183097
S13	5/15/90			X	SD2	1	X	X	MEZ613	EZ423	183101
S14	5/15/90			X	SD3	1	X	X	MEZ614	EZ424	183105

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Cindy S Fairbanks	5/15/90 2PM				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
				Airborne 651 571 012 Associated Labs Custody # 16035, 16036	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5- 14194

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

2 of 3

PROJ. NO. 90mF05 | PROJECT NAME (case #) 14125

SAMPLERS: (Signature) Cindy S Fairbanks

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	Pest/RCB/BNA				REMARKS OTR #	TRP #
501	5/15/90			X	SS1	3	2	1				EZ411	ME2601 183047-183054
502	5/15/90			X	SS2	3	2	1				EZ412	ME2602 183051-183058
503	5/15/90			X	SS3	3	2	1				EZ413	ME2603 183060-183062
504	5/15/90			X	SS4	3	2	1				EZ414	ME2604 183064-183066
505	5/15/90			X	SS5	3	2	1				EZ415	ME2605 183068-183070
506	5/15/90			X	SS6	3	2	1				EZ416	ME2606 183071-183074
507	5/15/90			X	SS7	3	2	1				EZ417	ME2607 183076-183078
508	5/15/90			X	SS8	3	2	1				EZ418	ME2608 183080-183082
509	5/15/90			X	SS9	3	2	1				EZ419	ME2609 183084-183086
510	5/15/90			X	SS10	3	2	1				EZ420	ME2610 183088-183090

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Cindy S Fairbanks	5/15/90 2pm				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by (Signature)	Date / Time	Remarks Airborne 651571 04 ENSECO Custody # 2574, 2575	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

CHAIN OF CUSTODY RECORD

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

3 of 3
EOS

PROJ. NO.	PROJECT NAME
90MF05	14105

SAMPLERS: (Signature)
Cindy Stainbrook

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	Best Available					REMARKS
													DTR # / ITR # / Tag #
S12	5/15/90			X	S01	3	2	1					E2422 / ME2612 / 183096-183100
S13	5/15/90			X	S02	3	2	1					E2423 / ME2613 / 183102-183104
S14	5/15/90			X	S03	3	2	1					E2424 / ME2614 / 183106-183108
S11	5/15/90			X	FB	4	2	2					E2421 / ME2611 / 183093-183096

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Cindy Stainbrook	5/15/90 2pm				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
				Airborne 651570990. ENSECO Custody #2576/2577	

White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-14191

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: 90MF05
PROJECT NAME: 14105

SAMPLERS: *(Signature)* Cindy S. Fairbanks

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	651/PCB/BNA				REMARKS: OTR #	ITR #	[illegible]
S15	5/15/90			X	SW1	4	2	2				EZ425	MEZ615	183110-183114
S16	5/15/90			X	SW2	4	2	2				EZ426	MEZ616	183117-183120
S17	5/15/90			X	SW3	4	2	2				EZ427	MEZ617	183123-183126

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Cindy S. Fairbanks	5/15/90 2pm				

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*

Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks
				Airborne: 651570 9[illegible] ENSECO Lab Custody Seal # 2896, 2897

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File